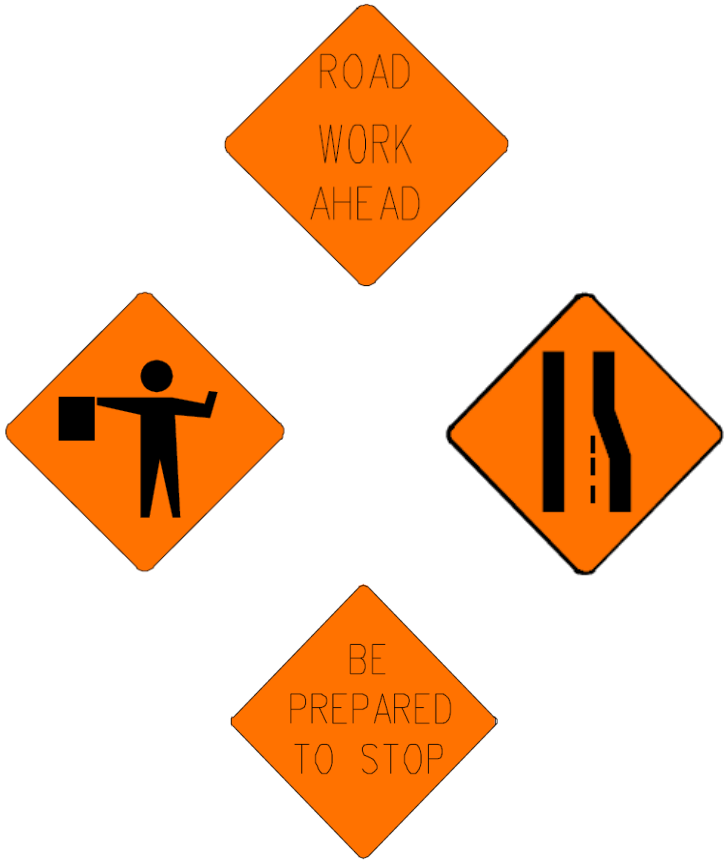
1999 – 2003
Virginia Work Zone
Crash Facts



VDOT Virginia Department of Transportation

March, 2006

Introduction

The Virginia Department of Transportation is pleased to present this **1999 – 2003 Virginia Work Zone Crash Facts** report. This document provides a comprehensive overview of traffic crashes occurring in work zones throughout the Commonwealth of Virginia between 1999 and 2003.

For the purpose of this report, a work zone crash is defined as a crash where the roadway defect is coded as "road under repair" on the Police Crash Reports (FR-300). This information is entered as roadway defect record type "4" in HTRIS. There are 4,618 work zone crashes identified in HTRIS for the years 1999 through 2003. Crashes that occurred in work zones on VDOT maintained routes (including interstate, primary and secondary routes) as well as on roads maintained at the local level (by Arlington and Henrico Counties, and various cities) are included in this report.

The Police Crash Reports (FR-300s) from 1999 through 2003 for all work zone crashes were reviewed in order to identify, when possible, the area of the temporary traffic control zone where the crash occurred (advance warning, transition, buffer, activity, and termination area). A location within the work zone for each work zone crash was recorded and this additional data was used in conjunction with the crash data from HTRIS to generate the graphs and tables in this report.

Based on a query of the HTRIS database, there are 4,618 crashes coded as roadway defect record type "4" (road under repair). A total of 4,633 FR-300s were retrieved from the files for work zone crashes. There are 15 additional work zone crashes based on the FR-300s (the document numbers on these 15 reports do not correspond to document numbers in HTRIS, possibly because they are supplemental reports). These 15 additional crashes were included in the graphs and tables pertaining to the area within the work zone.

Please be advised that, under Title 23 United States Code – Section 409, this crash information cannot be used in discovery or as evidence in a Federal or State court proceeding or considered for any other purposes in any action for damages against VDOT or the State of Virginia arising from any occurrence at locations identified. The data in this report is intended for training purposes, for public relations purposes especially in conjunction with National Work Zone Awareness Week, and for Strategic Highway Safety Plan development.

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Glossary

Fatal crash: Crash which results in one or more fatalities.

Fatality: Person who dies as a result of a traffic crash within 30 days of the crash.

HTRIS: VDOT's Highway Traffic Records Information System.

Injury crash: Crash which results in no fatalities but one or more persons are injured.

Pedestrian: Person on foot or using non-motorized means of travel (e.g.: bicycle, skates). This includes flaggers and highway workers in a work zone.

Pedestrian fatality: Pedestrian who dies as a result of a traffic crash within 30 days of the crash.

Pedestrian injury: Pedestrian who is injured as a result of a traffic crash.

Property damage crash: Crash which results in no fatalities or injuries, but there is property damage of at least $1,000.

Vehicular fatality: Driver or passenger in a vehicle involved in a traffic crash who dies as a result of the crash within 30 days of the crash.

Vehicular injury: Driver or passenger in a vehicle who is injured as a result of a traffic crash.

VDOT District: VDOT divides the state into nine districts (summarized below), each of which oversees maintenance and construction on the state-maintained highways, bridges and tunnels in its region.

1. **Bristol:** Bland, Buchanan, Dickenson, Grayson, Lee, Russell, Scott, Smyth, Tazewell, Washington, Wise, and Wythe Counties.
2. **Salem:** Bedford, Botetourt, Carroll, Craig, Floyd, Franklin, Giles, Henry, Montgomery, Patrick, Pulaski, and Roanoke Counties.
3. **Lynchburg:** Amherst, Appomattox, Buckingham, Campbell, Charlotte, Cumberland, Halifax, Nelson, Pittsylvania, and Prince Edward Counties.
4. **Richmond:** Amelia, Brunswick, Charles City, Chesterfield, Dinwiddie, Goochland, Hanover, Henrico, Lunenburg, Mecklenburg, New Kent, Nottoway, Powhatan, and Prince George Counties.
5. **Hampton Roads:** Accomack, Greensville, Isle of Wight, James City, Northampton, Southampton, Surry, Sussex, and York Counties; cities of Chesapeake, Emporia, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg.
6. **Fredericksburg:** Caroline, Essex, Gloucester, King George, King and Queen, King William, Lancaster, Mathews, Middlesex, Northumberland, Richmond, Spotsylvania, Stafford, and Westmoreland Counties.
7. **Culpeper:** Albemarle, Culpeper, Fauquier, Fluvanna, Greene, Louisa, Madison, Orange, and Rappahannock Counties.
8. **Staunton:** Alleghany, Augusta, Bath, Clarke, Frederick, Highland, Page, Rockbridge, Rockingham, Shenandoah, and Warren Counties.
9. **Northern Virginia:** Arlington, Fairfax, Loudoun, and Prince William Counties.

Temporary traffic control zone: an area of a highway where road user conditions are changed because of a work zone or incident by the use of temporary traffic control devices, flaggers, police, or other authorized personnel. (See Figure I on page vi.)

Work zone: An area of a highway or roadway with construction, maintenance, or utility work activities.

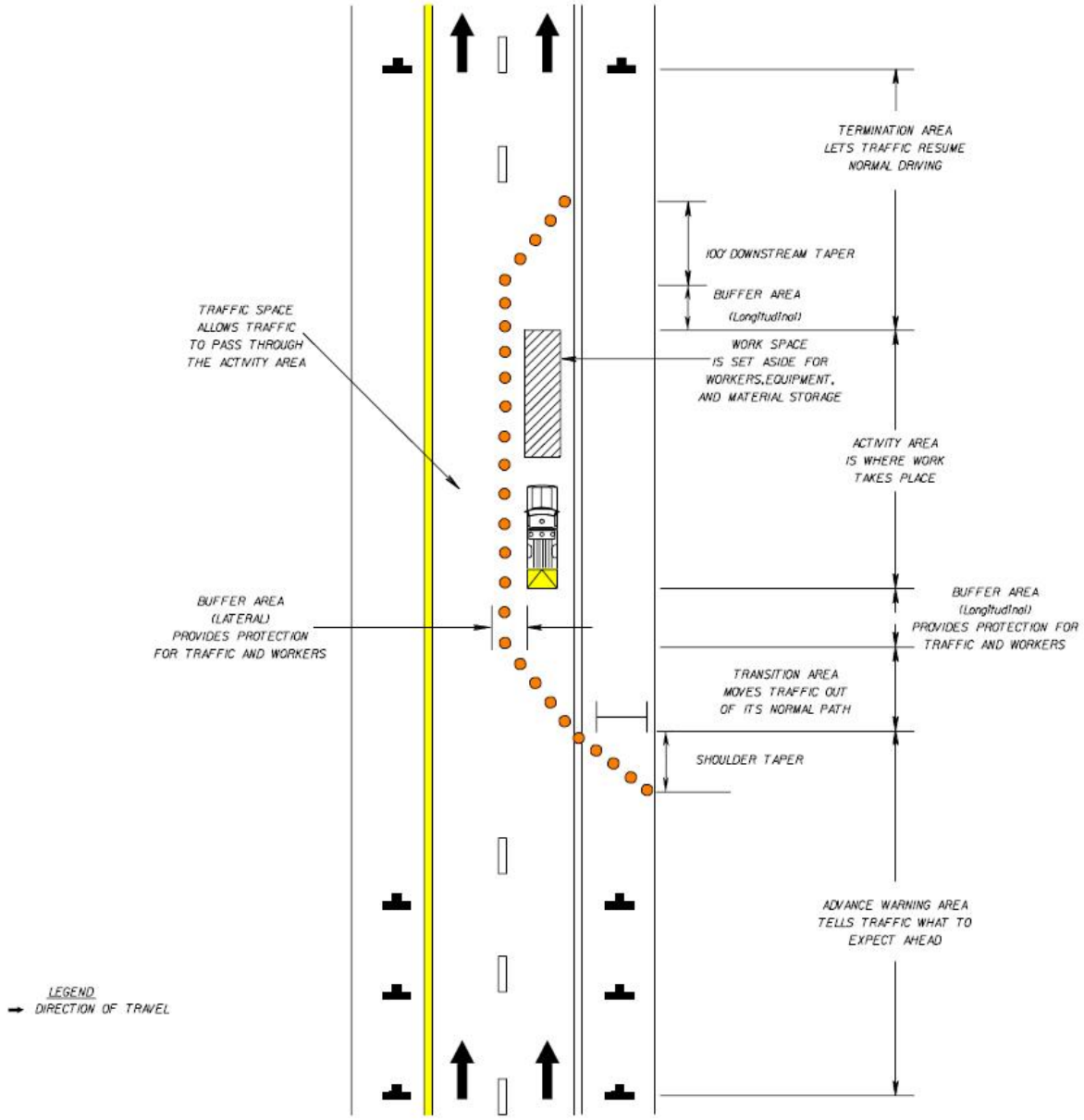


Figure I: Component Parts of a Temporary Traffic Control Zone

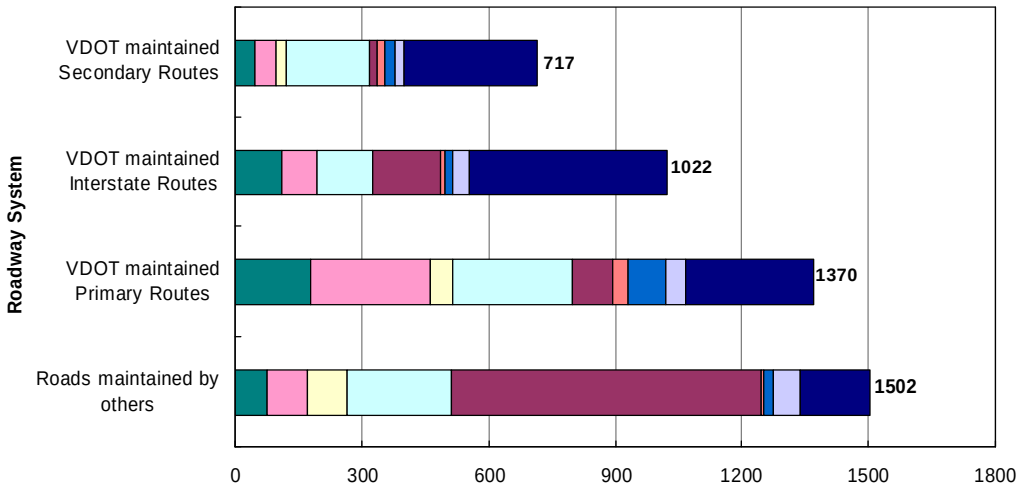
Advance Warning Area: the section of highway where road users are informed about the upcoming work zone or incident area.

Transition Area: the section of highway where road users are redirected out of their normal path.

Buffer Area: the lateral and/or longitudinal clear space that separates road user flow from the work space or an unsafe area, and might provide some recovery space for an errant vehicle.

Activity Area: the section of the highway where the work activity takes place. It is comprised of the work space, and the traffic space.

Termination Area: the section of highway where road users are returned to their normal path.



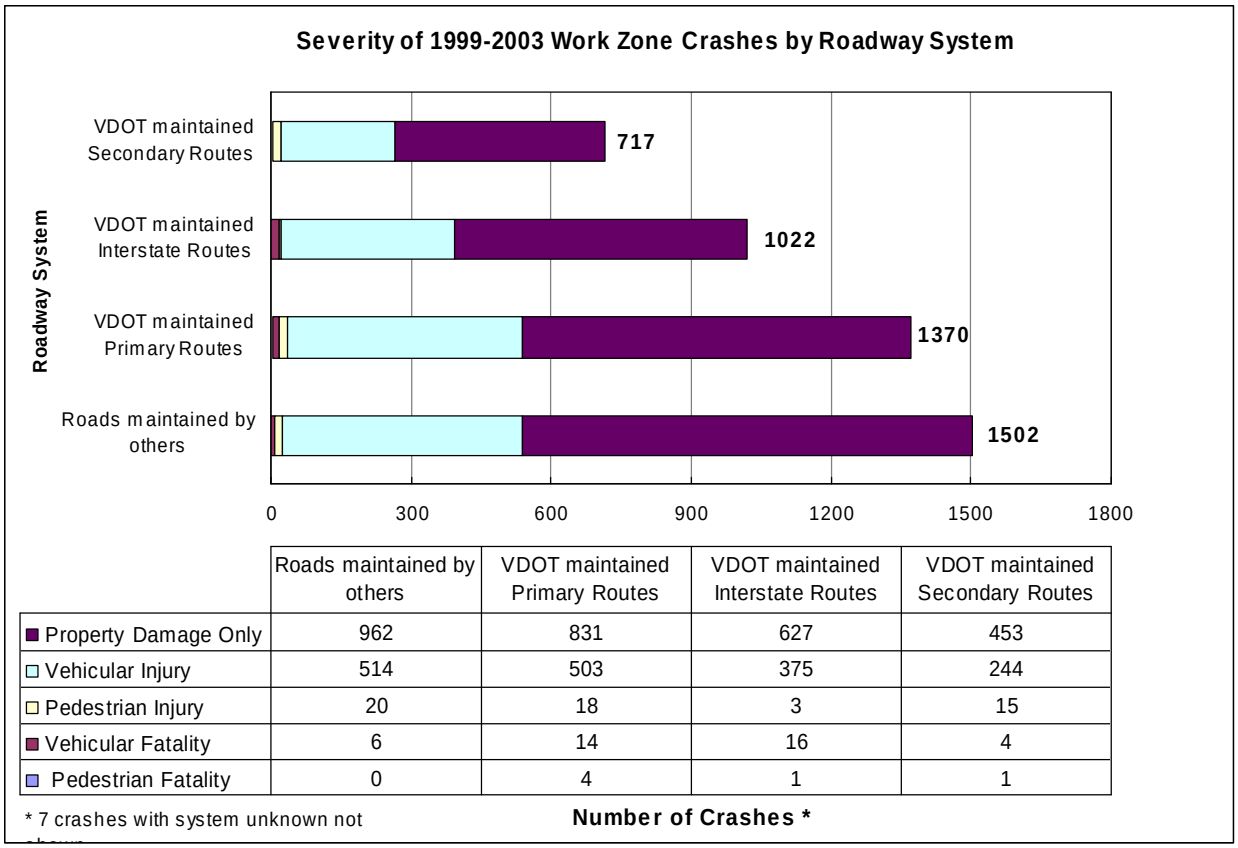
	Roads maintained by others	VDOT maintained Primary Routes	VDOT maintained Interstate Routes	VDOT maintained Secondary Routes
Northern Virginia	164	305	468	316
Staunton	65	45	40	20
Culpeper	22	88	15	28
Fredericksburg	6	38	13	18
Hampton Roads	733	97	161	16
Richmond	247	280	131	197
Lynchburg	93	54	0	26
Salem	96	283	82	49
Bristol	76	180	112	47

Number of Crashes *

* 7 crashes with system unknown not shown

This chart contains the summary of 4,618 crashes that occurred within a work zone between January 1, 1999 and December 31, 2003. The crashes are grouped by the Roadway System on which the crash occurred (Interstate Route, State Primary Route, State Secondary Route, and Roads maintained by others). The data is presented as 5-year statewide totals for each Roadway System. These are further classified by District.

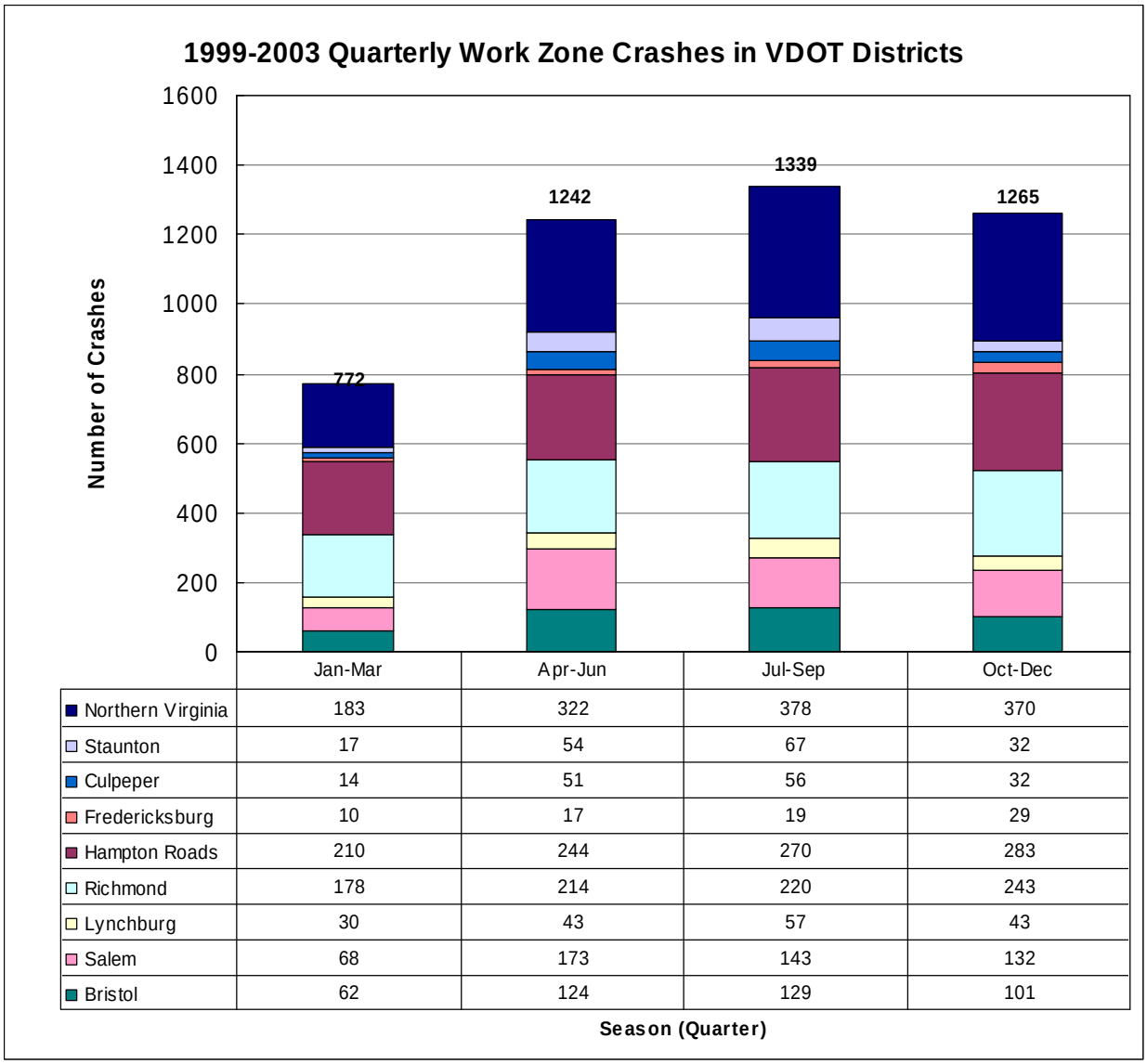
Note: Lynchburg District does not maintain any Interstate Route mileage.



	Roads maintained by others	VDOT maintained Primary Routes	VDOT maintained Interstate Routes	VDOT maintained Secondary Routes
Property Damage Only	962	831	627	453
Vehicular Injury	514	503	375	244
Pedestrian Injury	20	18	3	15
Vehicular Fatality	6	14	16	4
Pedestrian Fatality	0	4	1	1

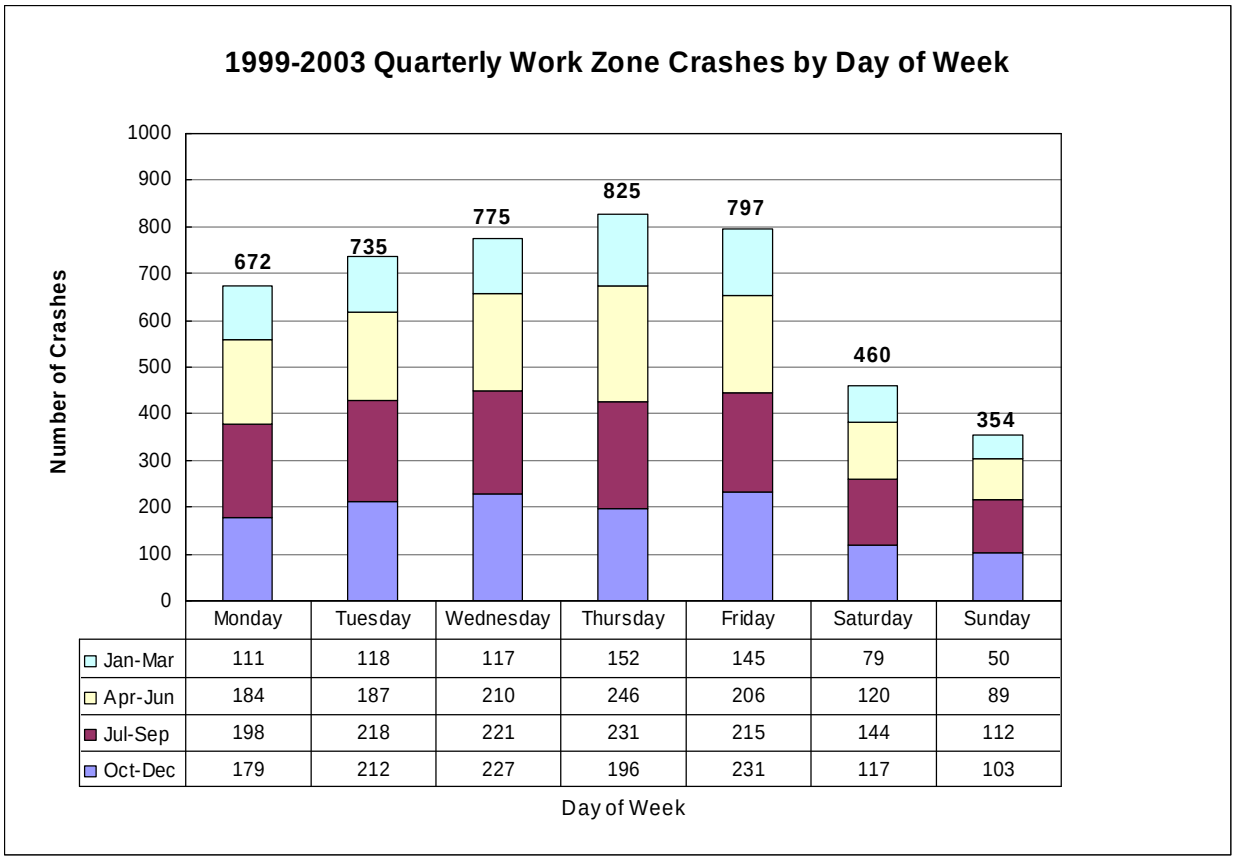
* 7 crashes with system unknown not shown

This chart contains the summary of 4,618 crashes that occurred within a work zone between January 1, 1999 and December 31, 2003. The crashes are grouped by the Roadway System on which the crash occurred (Interstate Route, State Primary Route, State Secondary Route, and Roads maintained by others). The data is presented as 5-year statewide totals for each Roadway System. These are further classified by severity of the crash (Property Damage Only, Vehicular or Pedestrian Injury crash, and Vehicular or Pedestrian Fatality crash).



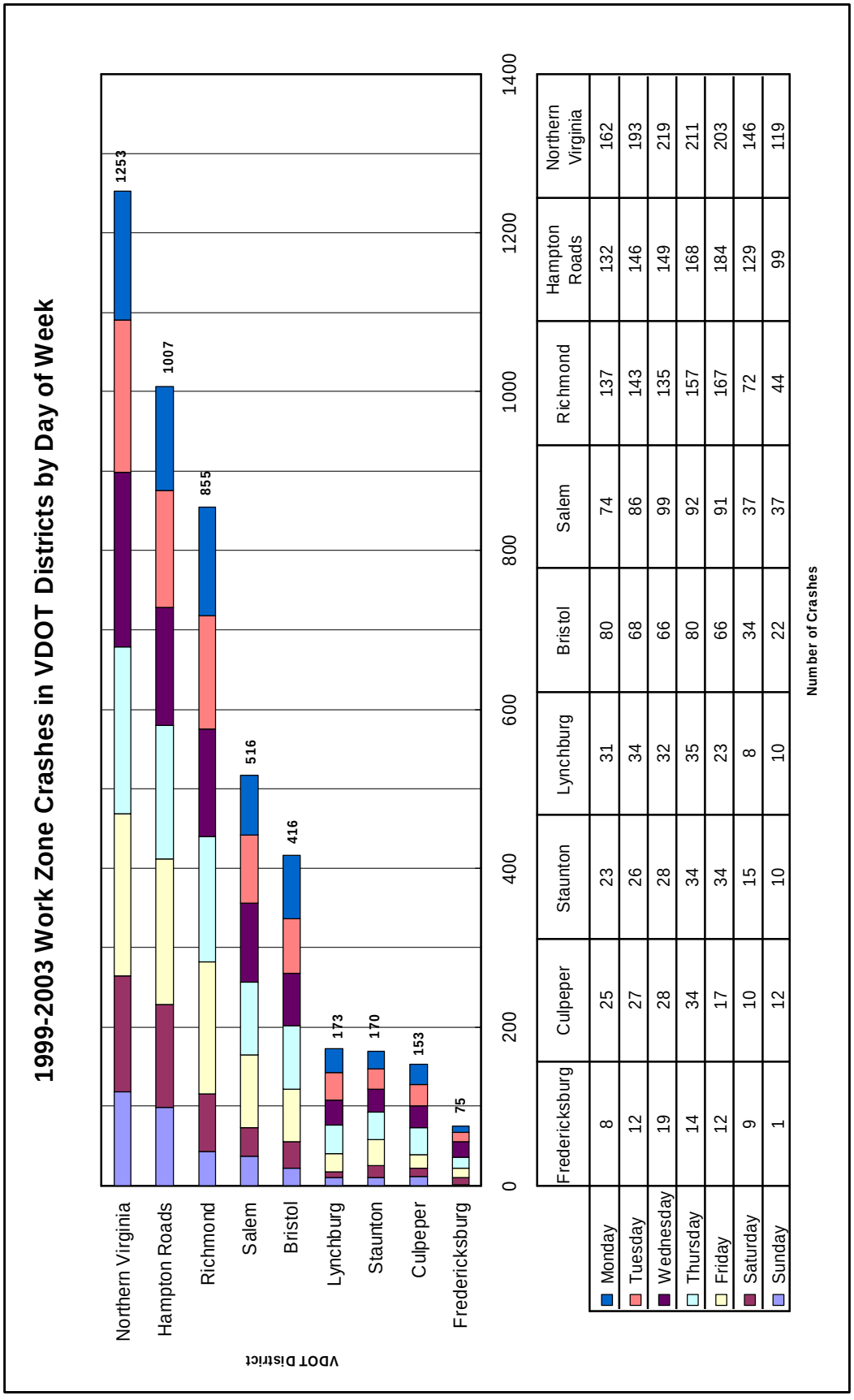
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Northern Virginia	183	322	378	370
Staunton	17	54	67	32
Culpeper	14	51	56	32
Fredericksburg	10	17	19	29
Hampton Roads	210	244	270	283
Richmond	178	214	220	243
Lynchburg	30	43	57	43
Salem	68	173	143	132
Bristol	62	124	129	101

This chart contains the summary of 4,618 crashes that occurred within a work zone between January 1, 1999 and December 31, 2003. The crashes are grouped by the Seasonal Quarter (January - March, April - June, July - September, and October - December) in which the crash occurred. The data is presented as 5-year statewide totals for each Quarter. These are further classified by District.



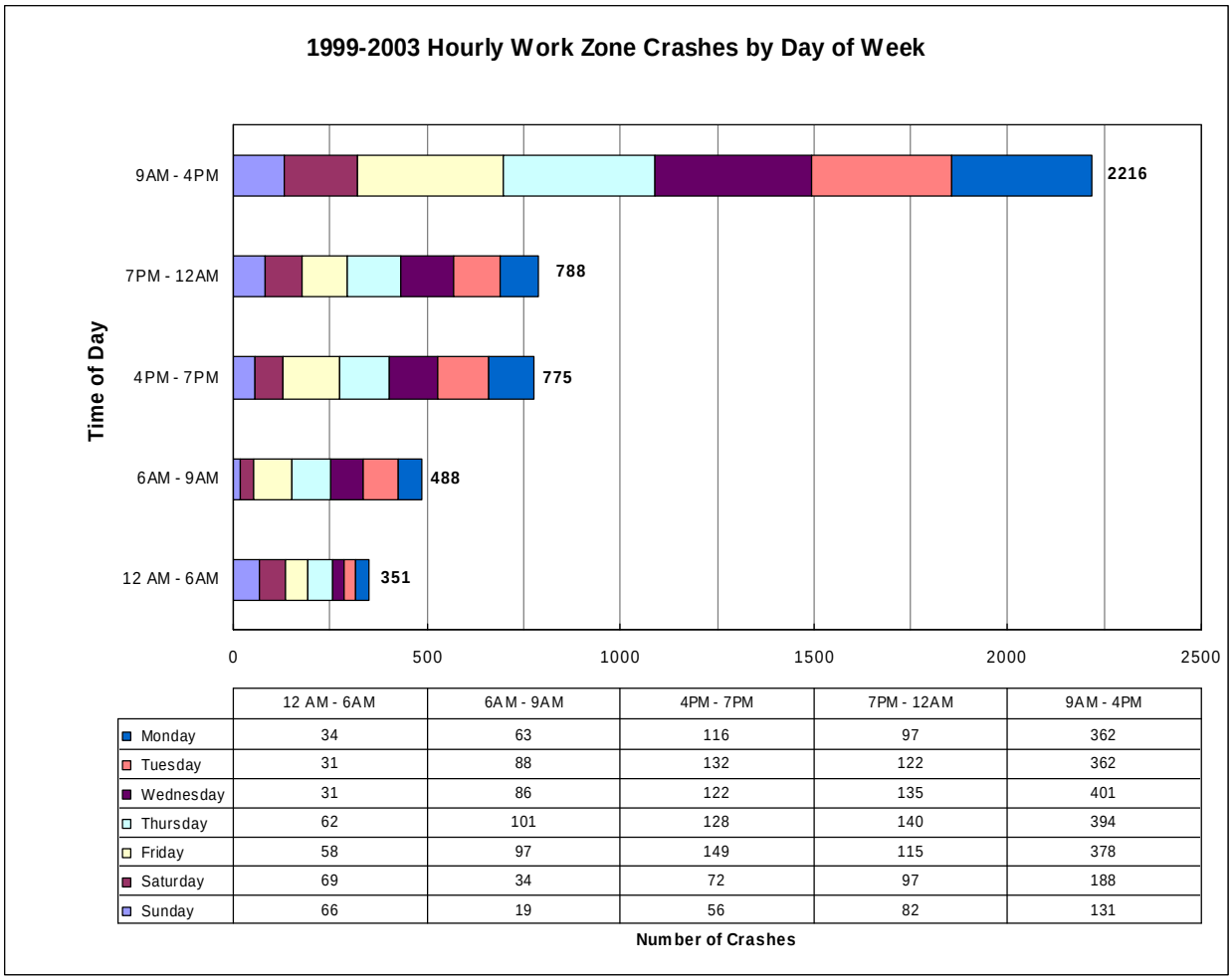
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Jan-Mar	111	118	117	152	145	79	50
Apr-Jun	184	187	210	246	206	120	89
Jul-Sep	198	218	221	231	215	144	112
Oct-Dec	179	212	227	196	231	117	103

This chart contains the summary of 4,618 crashes that occurred within a work zone between January 1, 1999 and December 31, 2003. The crashes are grouped by the Day of Week on which the crash occurred. The data is presented as 5-year statewide totals for each Day of Week. The data is further classified by the Seasonal Quarter (January - March, April - June, July - September, and October - December) in which the crash occurred.



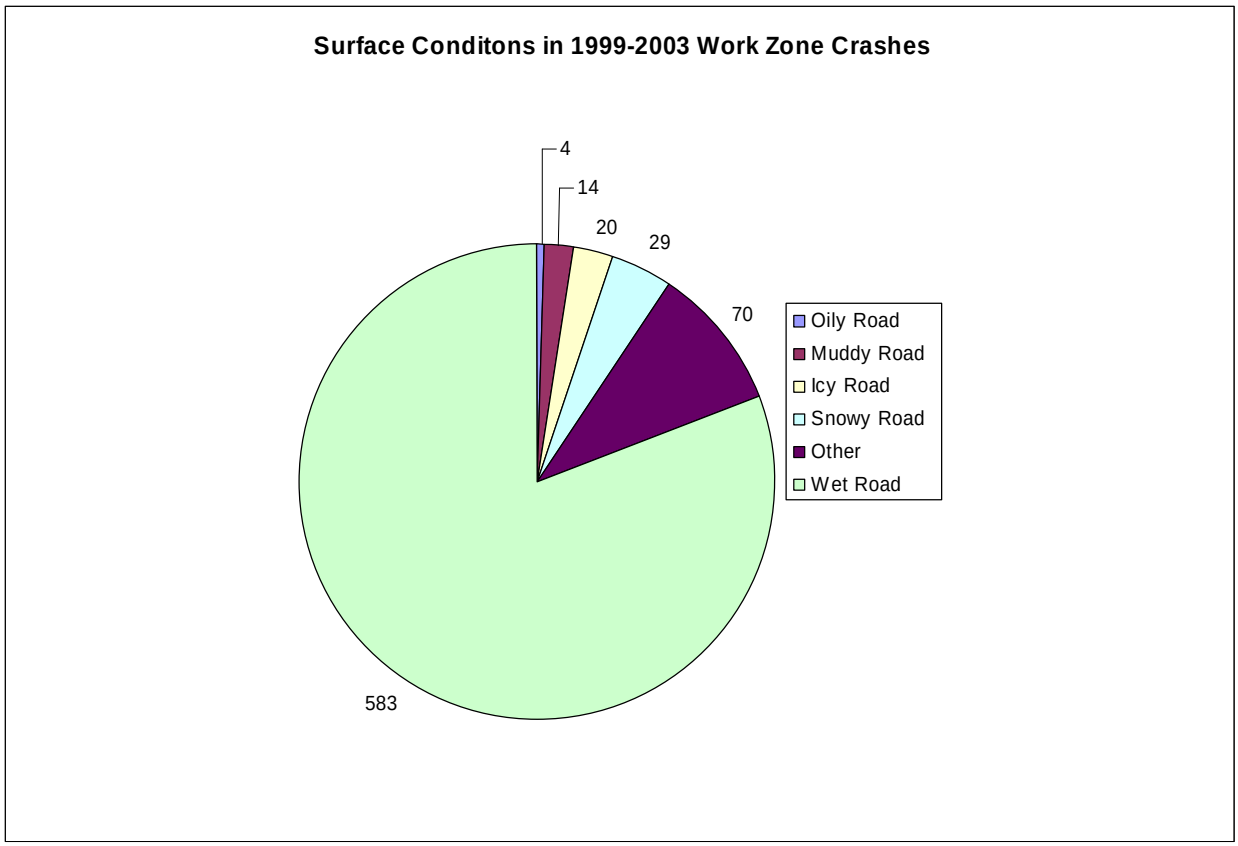
	Fredericksburg	Culpeper	Staunton	Lynchburg	Bristol	Salem	Richmond	Hampton Roads	Northern Virginia
Monday	8	25	23	31	80	74	137	132	162
Tuesday	12	27	26	34	68	86	143	146	193
Wednesday	19	28	28	32	66	99	135	149	219
Thursday	14	34	34	35	80	92	157	168	211
Friday	12	17	34	23	66	91	167	184	203
Saturday	9	10	15	8	34	37	72	129	146
Sunday	1	12	10	10	22	37	44	99	119

The chart on the previous page contains the summary of 4,618 crashes that occurred within a work zone between January 1, 1999 and December 31, 2003. The crashes are grouped by the VDOT District in which the crash occurred. The data is presented as 5-year statewide totals for each District. These are further classified by the Day of Week on which the crash occurred.



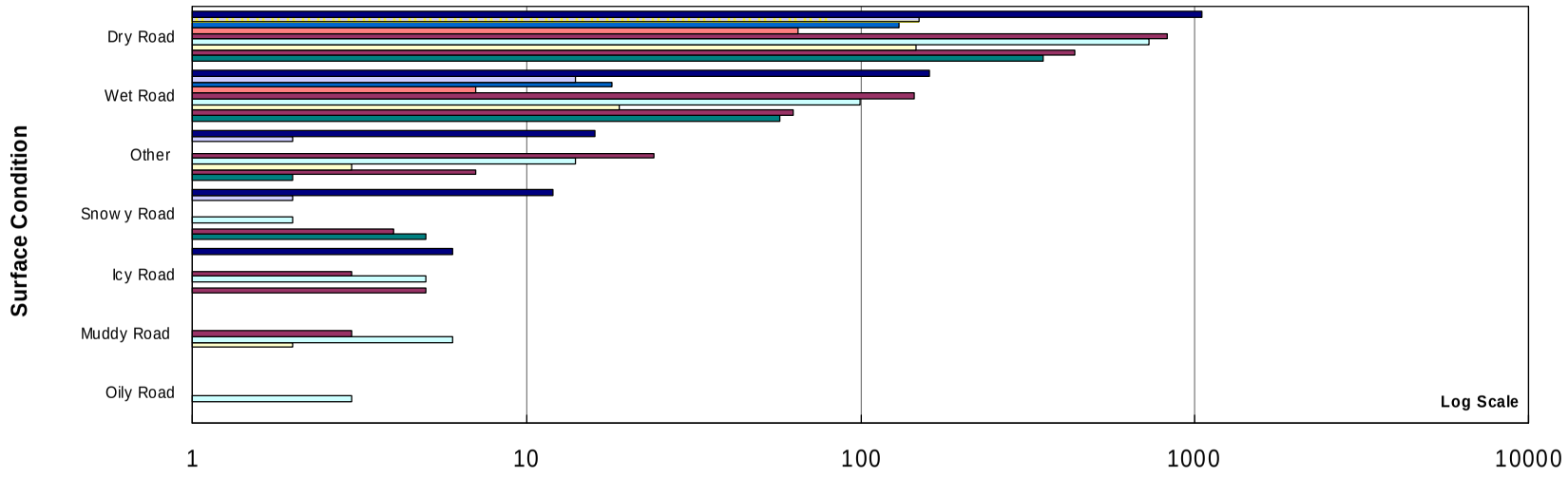
	12 AM - 6AM	6AM - 9AM	4PM - 7PM	7PM - 12AM	9AM - 4PM
Monday	34	63	116	97	362
Tuesday	31	88	132	122	362
Wednesday	31	86	122	135	401
Thursday	62	101	128	140	394
Friday	58	97	149	115	378
Saturday	69	34	72	97	188
Sunday	66	19	56	82	131

This chart contains the summary of 4,618 crashes that occurred within a work zone between January 1, 1999 and December 31, 2003. The crashes are grouped by the Time of Day when the crash occurred. The 24-hours of the day are divided into five time periods (12 AM to 6 AM, 6 AM to 9 AM, 9 AM to 4 PM, 4 PM to 7 PM, and 7 PM to 12 AM). The data is presented as 5-year statewide totals for each time period. The data is further classified by the Day of Week on which the crash occurred.



This chart contains the summary of 4,618 crashes that occurred within a work zone between January 1, 1999 and December 31, 2003. The crashes are grouped by the Surface Condition of the roadway noted on the FR-300 when the crash occurred. A majority of the work zone crashes (3,819 or 84%) occurred on dry roads. The Dry Road crashes **ARE NOT** shown in the graph above. The data is presented as 5-year statewide totals for each surface condition.

1999-2003 Work Zone Crashes in VDOT District by Surface Condition



	Oily Road	Muddy Road	Icy Road	Snow y Road	Other	Wet Road	Dry Road
Northern Virginia	0	1	6	12	16	161	1055
Staunton	0	1	0	2	2	14	150
Culpeper	0	0	0	1	1	18	131
Fredericksburg	1	1	0	1	1	7	65
Hampton Roads	0	3	3	1	24	145	828
Richmond	3	6	5	2	14	99	726
Lynchburg	0	2	1	1	3	19	147
Salem	0	0	5	4	7	63	437
Bristol	0	0	0	5	2	57	352

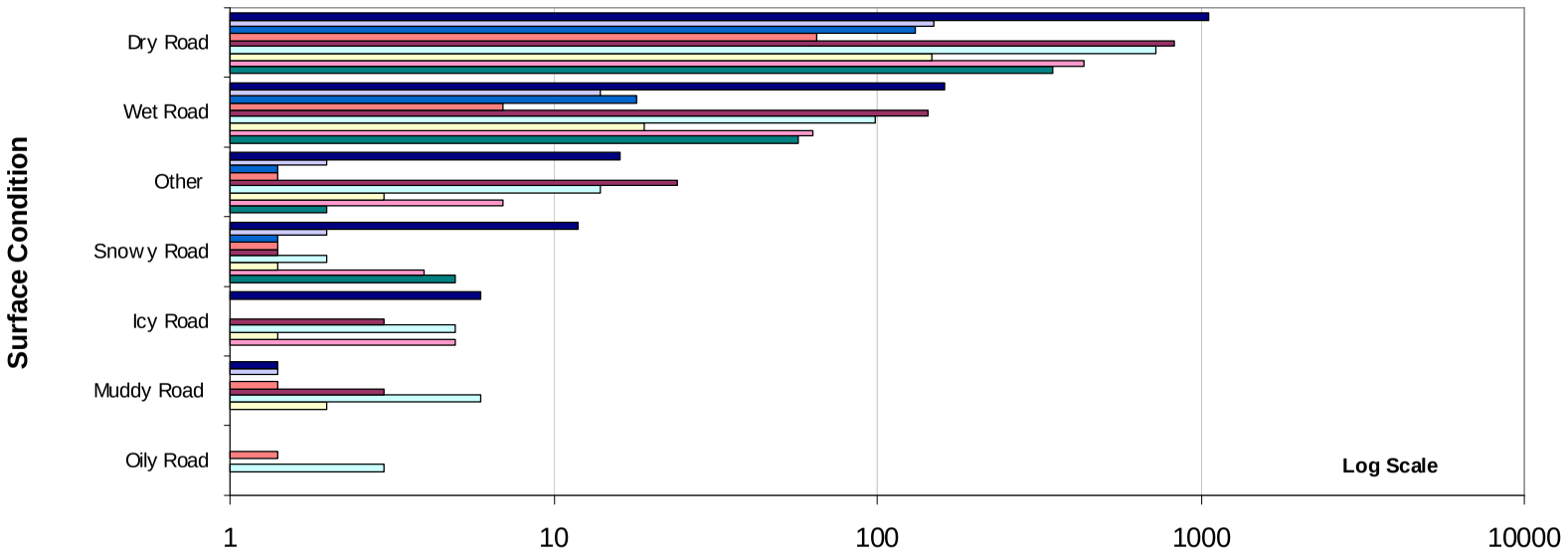
Number of Crashes

*7 crashes that occurred in Unknown conditions are not shown

The chart on the previous page contains the summary of 4,618 crashes that occurred within a work zone between January 1, 1999 and December 31, 2003. The crashes are grouped by the Surface Condition of the roadway when the crash occurred (Dry, Wet, Snowy, Icy, Muddy, Oily, or Other). The data is presented as 5-year statewide totals for each surface condition. These are further classified by the VDOT District in which the crash occurred.

Note: Due to the large variation in numbers represented by this bar graph a logarithmic scale was used to display the number of crashes. The length of the bar for each surface condition needs to be read using the logarithmic scale shown on the x-axis of the graph.

1999-2003 Work Zone Crashes in VDOT Districts by Surface Condition



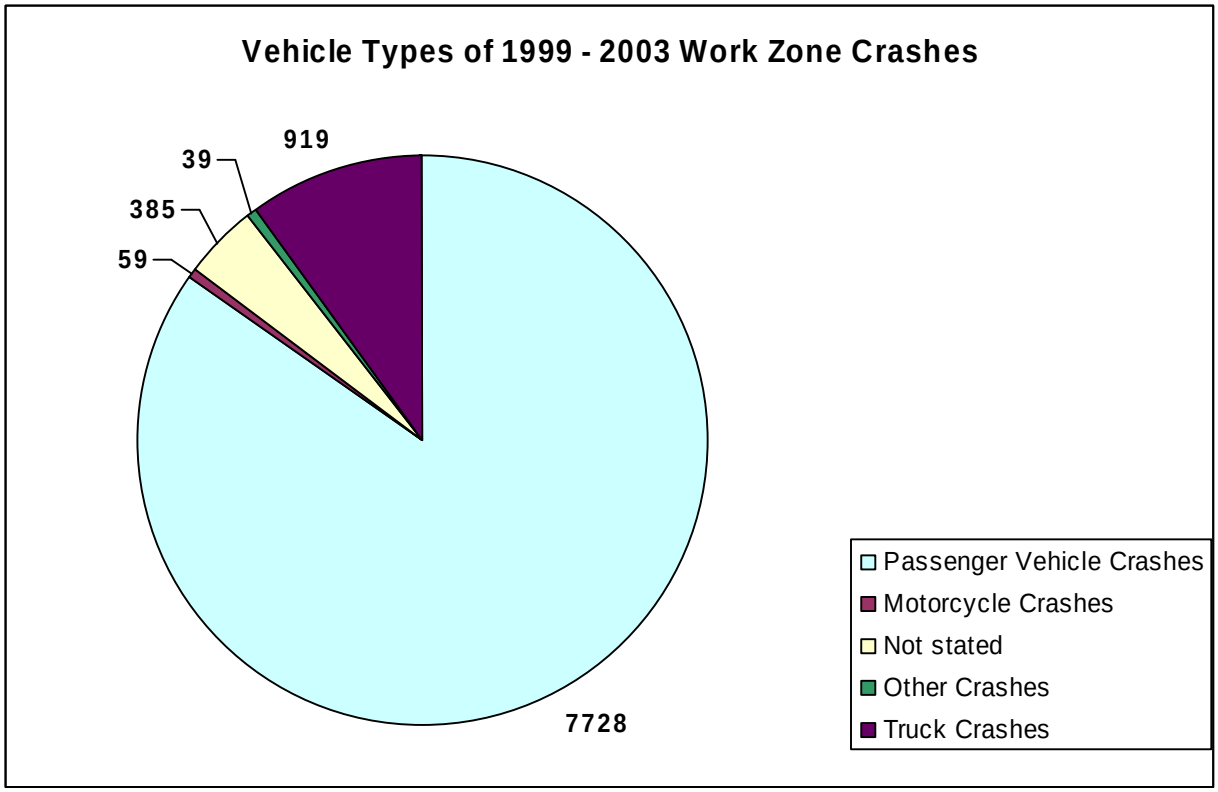
	Oily Road	Muddy Road	Icy Road	Snowy Road	Other	Wet Road	Dry Road
Northern Virginia	0	1	6	12	16	161	1055
Staunton	0	1	0	2	2	14	150
Culpeper	0	0	0	1	1	18	131
Fredericksburg	1	1	0	1	1	7	65
Hampton Roads	0	3	3	1	24	145	828
Richmond	3	6	5	2	14	99	726
Lynchburg	0	2	1	1	3	19	147
Salem	0	0	5	4	7	63	437
Bristol	0	0	0	5	2	57	352

Number of Crashes

*7 crashes that occurred in Unknown conditions are not shown

The chart on the previous page contains the summary of 4,618 crashes that occurred within a work zone between January 1, 1999 and December 31, 2003. The crashes are grouped by the Surface Condition of the roadway when the crash occurred (Dry, Wet, Snowy, Icy, Muddy, Oily, or Other). The data is presented as 5-year statewide totals for each surface condition. These are further classified by the year in which the crash occurred.

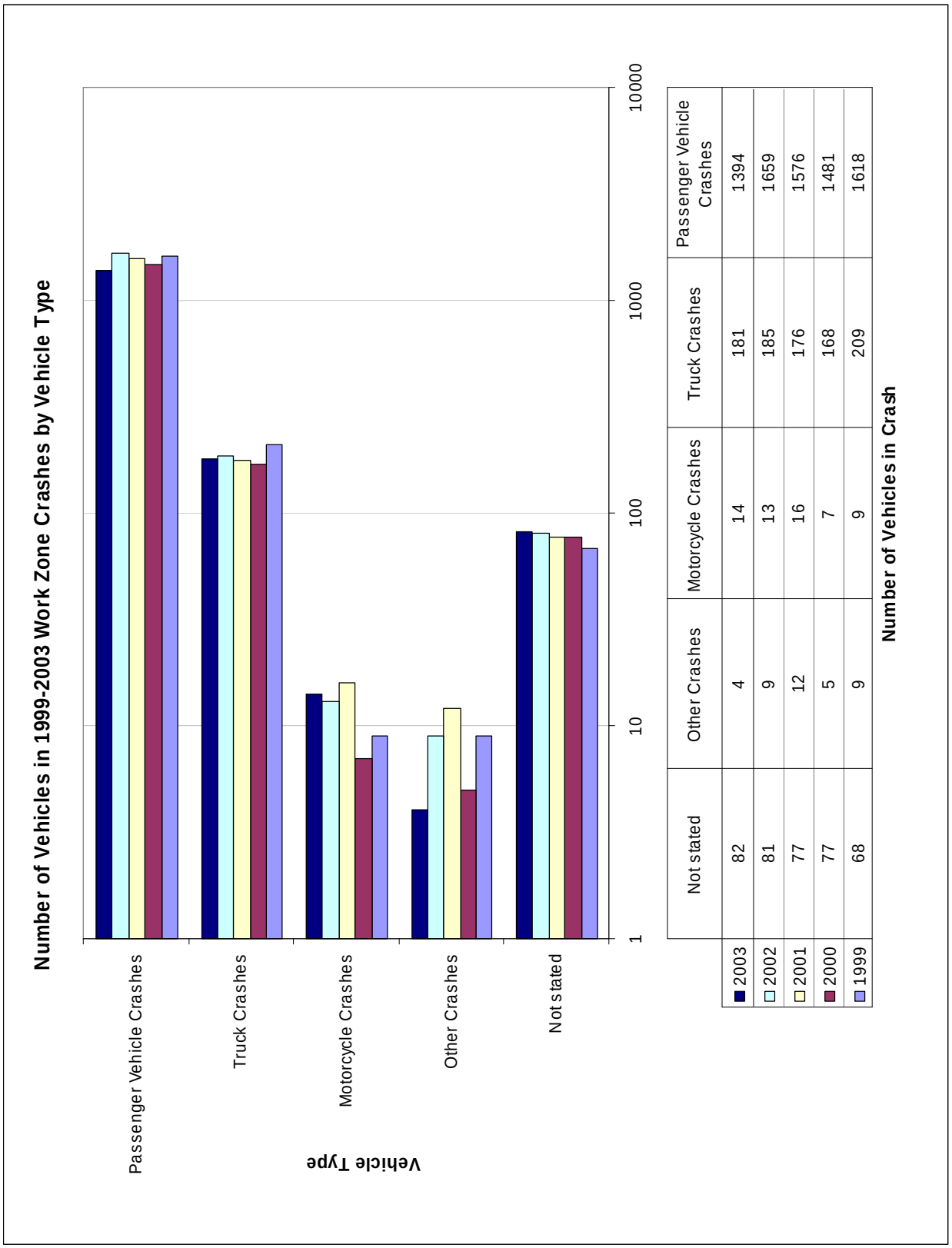
Note: Due to the large variation in numbers represented by this bar graph a logarithmic scale was used to display the number of crashes. The length of the bar for each surface condition needs to be read using the logarithmic scale shown on the x-axis of the graph.



This chart contains a summary of the 9,130 vehicles involved in work zone crashes (not the number of crashes) occurring between January 1, 1999 and December 31, 2003. The crashes are grouped by the Vehicle Type and the number of vehicles involved in each crash. The data is presented as 5-year statewide totals for each vehicle type.

The sixteen Vehicle Type Descriptions used in HTRIS are re-grouped as follows:

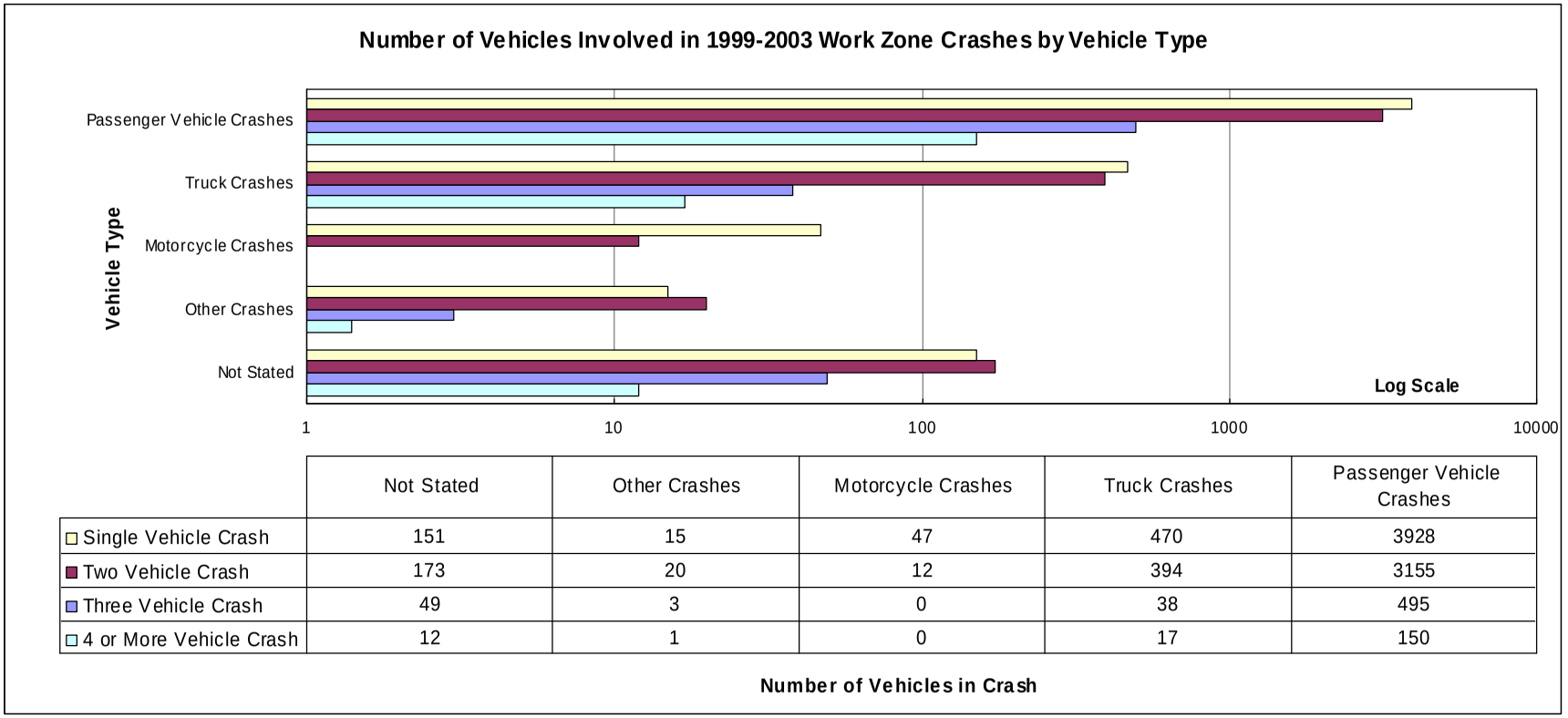
1. Passenger Vehicle – includes Passenger Car, Passenger Truck, Pickup, Bronco, Jeep, SUV, and Van
2. Motorcycle
3. Truck – includes Straight Truck, Flatbed, Dump Truck, Tractor Truck, Tractor-Trailer, Tractor-Double Trailer, Motor Home, Recreational Vehicle, Oversize Vehicle, Earthmover, Road Equipment, Emergency Vehicle, School Bus, City Transit Bus, Privately Owned Bus, Church Bus, and Commercial Passenger Bus
4. Other – includes Bicycle, Moped, Farm Equipment, Go-Cart, Golf Cart, and Dirt Bike



	Not stated	Other Crashes	Motorcycle Crashes	Truck Crashes	Passenger Vehicle Crashes
2003	82	4	14	181	1394
2002	81	9	13	185	1659
2001	77	12	16	176	1576
2000	77	5	7	168	1481
1999	68	9	9	209	1618

The chart on the previous page contains the summary of 9,130 vehicles involved in work zone crashes that occurred between January 1, 1999 and December 31, 2003. The data is presented as 5-year statewide totals for each Vehicle Type. These are further classified by the year in which the crash occurred.

Note: Due to the large variation in numbers represented by this bar graph a logarithmic scale was used to display the number of crashes. The length of the bar for each surface condition needs to be read using the logarithmic scale shown on the x-axis of the graph.

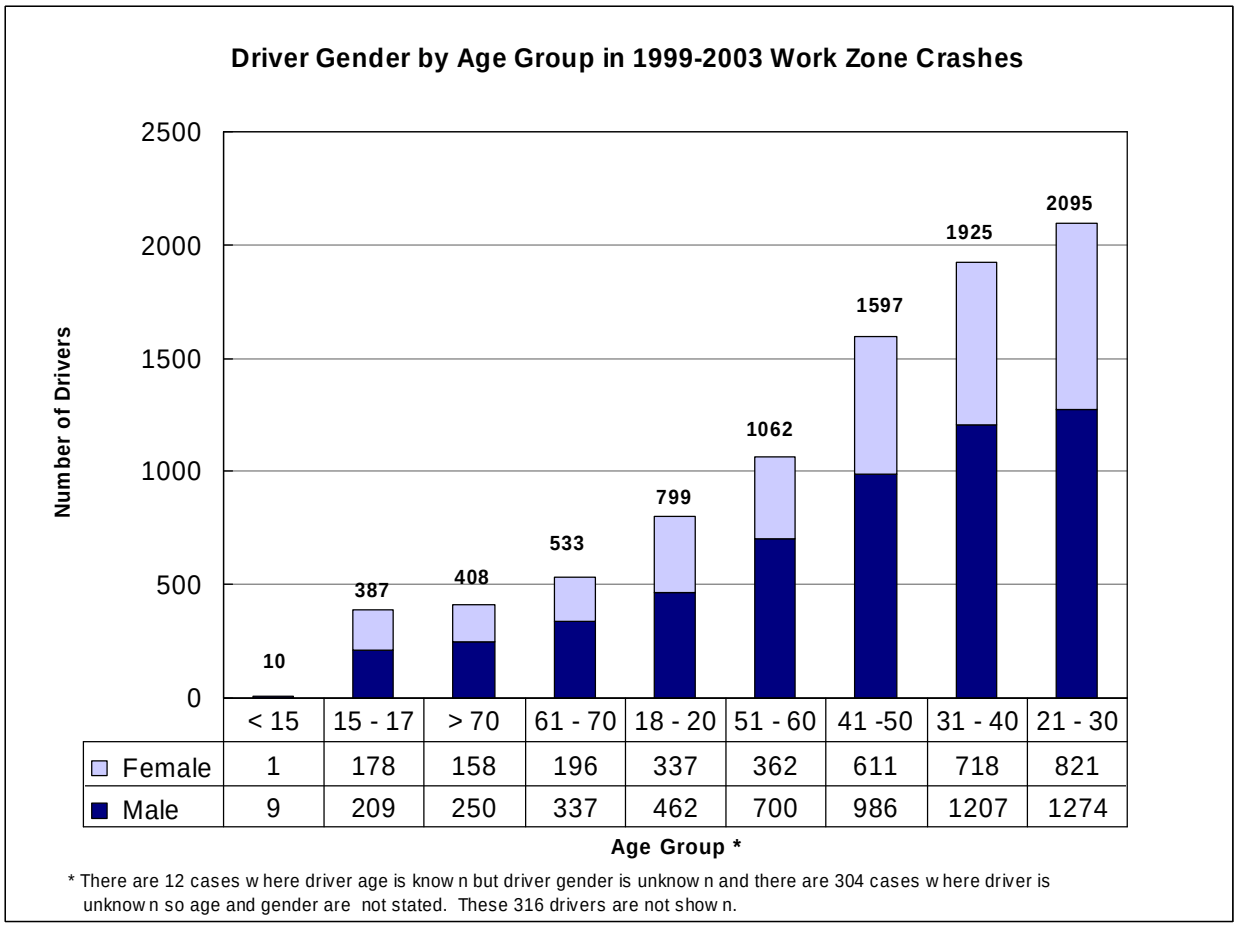


	Not Stated	Other Crashes	Motorcycle Crashes	Truck Crashes	Passenger Vehicle Crashes
Single Vehicle Crash	151	15	47	470	3928
Two Vehicle Crash	173	20	12	394	3155
Three Vehicle Crash	49	3	0	38	495
4 or More Vehicle Crash	12	1	0	17	150

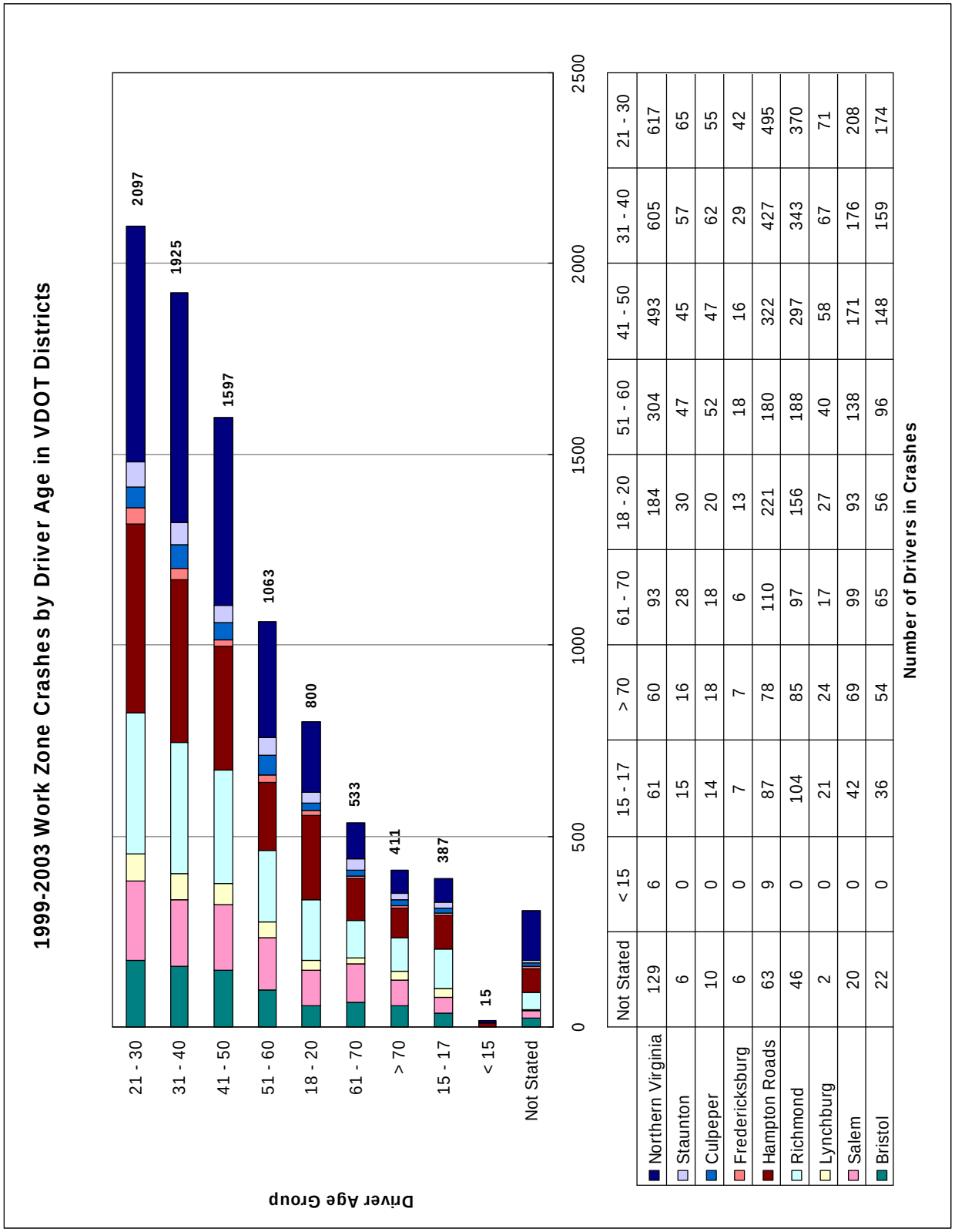
Number of Vehicles in Crash

The chart on the previous page contains a summary of the 9,130 vehicles involved in work zone crashes (not the number of crashes) occurring between January 1, 1999 and December 31, 2003. The data is presented as 5-year statewide totals for each Vehicle Type. These are further classified by the total number of vehicles involved in the crash (single vehicle, two vehicles, three vehicles, or 4 or more vehicles).

Note: Due to the large variation in numbers represented by this bar graph a logarithmic scale was used to display the number of crashes. The length of the bar for each surface condition needs to be read using the logarithmic scale shown on the x-axis of the graph.

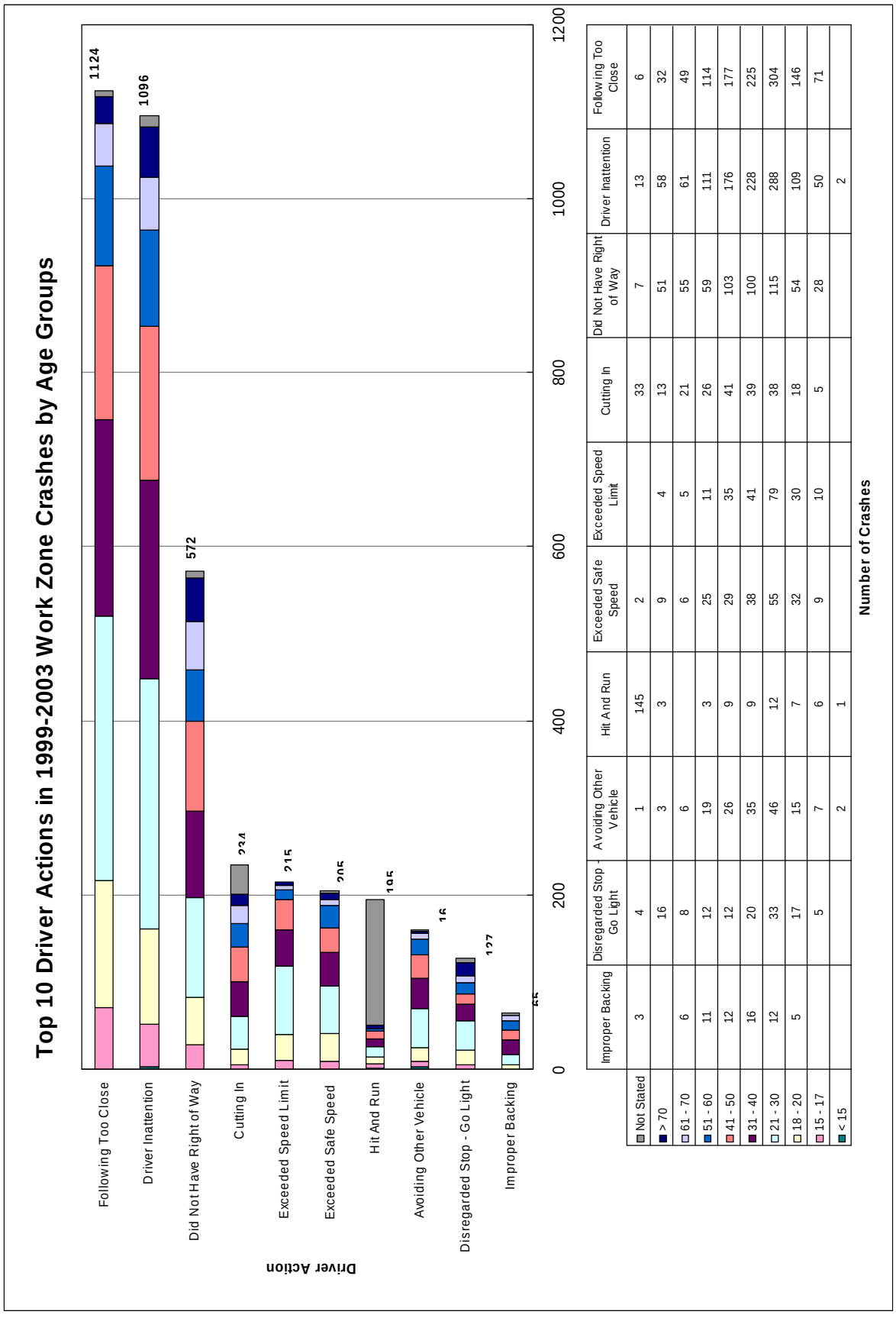


This chart contains a summary of the 9,130 drivers involved in work zone crashes (not the number of crashes) occurring between January 1, 1999 and December 31, 2003. The crashes are grouped by the Driver Gender and 10 Driver Age Groups. The data is presented as 5-year statewide totals for each age group. These are further classified by driver gender.



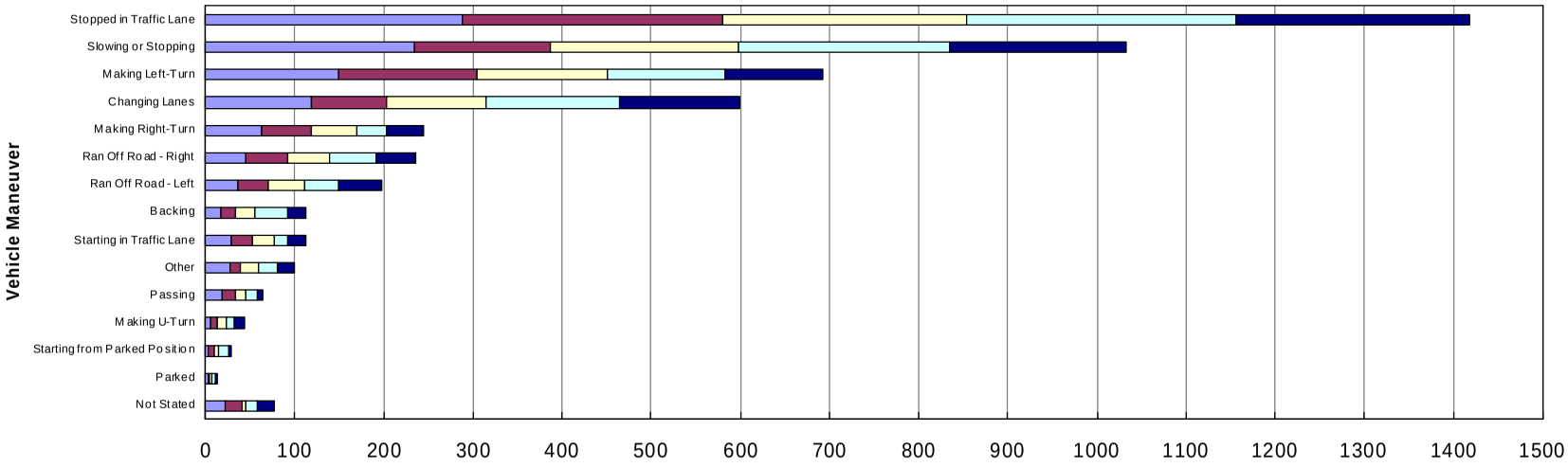
	Not Stated	< 15	15 - 17	> 70	61 - 70	18 - 20	51 - 60	41 - 50	31 - 40	21 - 30
Northern Virginia	129	6	61	60	93	184	304	493	605	617
Staunton	6	0	15	16	28	30	47	45	57	65
Culpeper	10	0	14	18	18	20	52	47	62	55
Fredericksburg	6	0	7	7	6	13	18	16	29	42
Hampton Roads	63	9	87	78	110	221	180	322	427	495
Richmond	46	0	104	85	97	156	188	297	343	370
Lynchburg	2	0	21	24	17	27	40	58	67	71
Salem	20	0	42	69	99	93	138	171	176	208
Bristol	22	0	36	54	65	56	96	148	159	174

The chart on the previous page contains a summary of the 9,130 drivers involved in work zone crashes (not the number of crashes) occurring between January 1, 1999 and December 31, 2003. The crashes are grouped by the 10 Driver Age Groups. The data is presented as 5-year statewide totals for each age group. These are further classified by the VDOT district in which the crash occurred.


Top 10 Driver Actions in 1999-2003 Work Zone Crashes by Age Groups
Following Too Close
Driver Inattention
Did Not Have Right of Way
Cutting In
Exceeded Speed Limit
Exceeded Safe Speed
Hit And Run
Avoiding Other Vehicle
Disregarded Stop - Go Light
Improper Backing
1124
1096
572
224
215
205
195
16
127
0
200
400
600
800
1000
1200
Driver Action
Number of Crashes
Not Stated
> 70
61 - 70
51 - 60
41 - 50
31 - 40
21 - 30
18 - 20
15 - 17
< 15
Improper Backing
Disregarded Stop - Go Light
Avoiding Other Vehicle
Hit And Run
Exceeded Safe Speed
Exceeded Speed Limit
Cutting In
Did Not Have Right of Way
Driver Inattention
Following Too Close
3 4 1 145 2 33 7 13 6
16 3 3 9 4 13 51 58 32
6 8 6 6 5 21 55 61 49
11 12 19 3 25 11 26 59 111 114
12 12 26 9 29 35 41 103 176 177
16 20 35 9 38 41 39 100 228 225
12 33 46 12 55 79 38 115 288 304
5 17 15 7 32 30 18 54 109 146
5 7 6 9 10 5 28 50 71
2 1 2

The chart on the previous page contains a summary of the 9,130 vehicles involved in work zone crashes (not the number of crashes) occurring between January 1, 1999 and December 31, 2003. The crashes are grouped by the top 10 Driver Actions (a total of 38 Driver Actions are identified in HTRIS). The data is presented as 5-year statewide totals for the top 10 Driver Actions. These are further classified by the 10 Driver Age Groups.

1999-2003 Annual Work Zone Crashes by Vehicle Maneuver



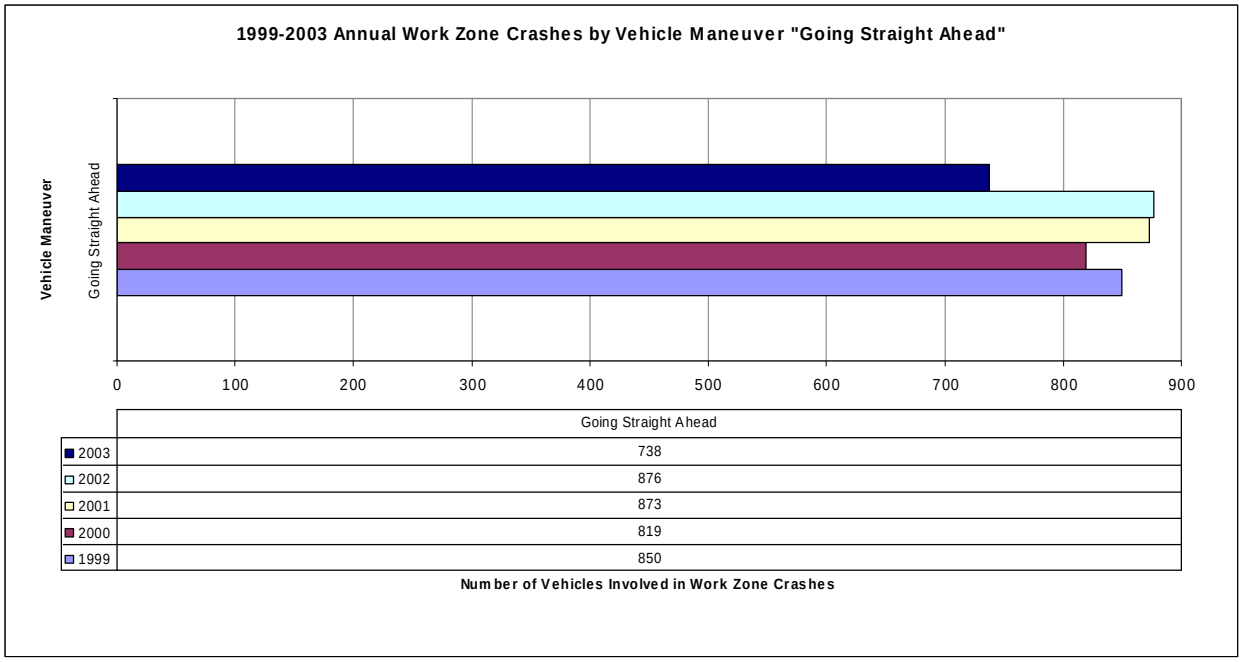
	Not Stated	Parked	Starting from Parked	Making U-Turn	Passing	Other	Starting in Traffic Lane	Backing	Ran Off Road - Left	Ran Off Road - Right	Making Right-Turn	Changing Lanes	Making Left-Turn	Slowing or Stopping	Stopped in Traffic Lane
2003	18	1	2	12	5	19	20	21	49	44	41	135	110	198	262
2002	13	5	12	9	14	20	16	36	38	53	34	149	132	238	302
2001	5	2	5	10	11	21	24	23	41	47	52	112	147	210	274
2000	19	2	7	7	15	11	23	15	34	46	55	85	155	153	292
1999	22	3	3	6	19	28	30	18	36	46	63	118	149	234	288

Number of Vehicles Involved in Work Zone Crashes *

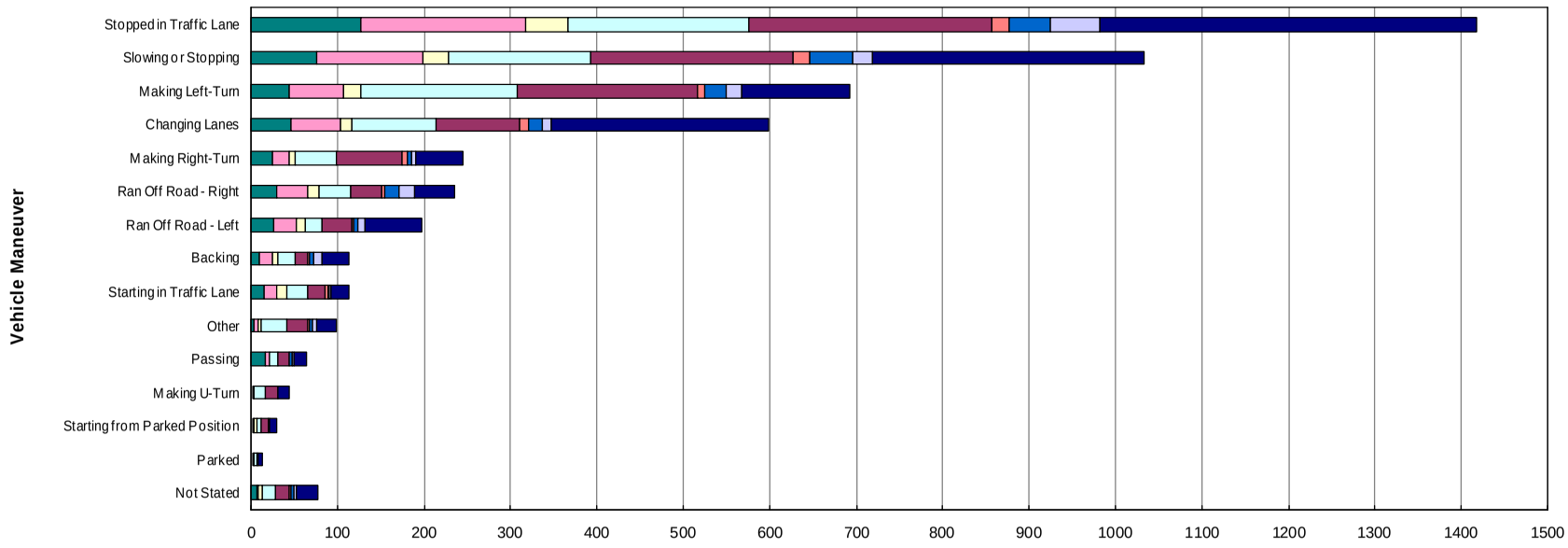
*4,156 vehicles involved in 1999-2003 crashes where vehicle maneuver was going straight ahead are not shown.
(850 vehicles in 1999, 819 vehicles in 2000, 873 vehicles in 2001, 876 vehicles in 2002, and 738 vehicles in 2003)

The chart on the previous page contains a summary of the 9,130 vehicles involved in work zone crashes (not the number of crashes) occurring between January 1, 1999 and December 31, 2003. The crashes are grouped by the 15 Vehicle Maneuvers identified in HTRIS. The data is presented as 5-year statewide totals for the top 10 Driver Actions. These are further classified by the year in which the crash occurred.

In 4,156 (or 85%) of the work zone crashes the vehicle maneuver was "Going Straight Ahead". Since this vehicle maneuver represents a majority of the crashes it is shown separately in the chart below rather than being included in the chart on the previous page. Of these 4,156 crashes 850 occurred in 1999, 819 occurred in 2000, 873 occurred in 2001, 876 occurred in 2002, and 738 occurred in 2003.



Vehicle Maneuvers in 1999-2003 Work Zone Crashes by VDOT Districts



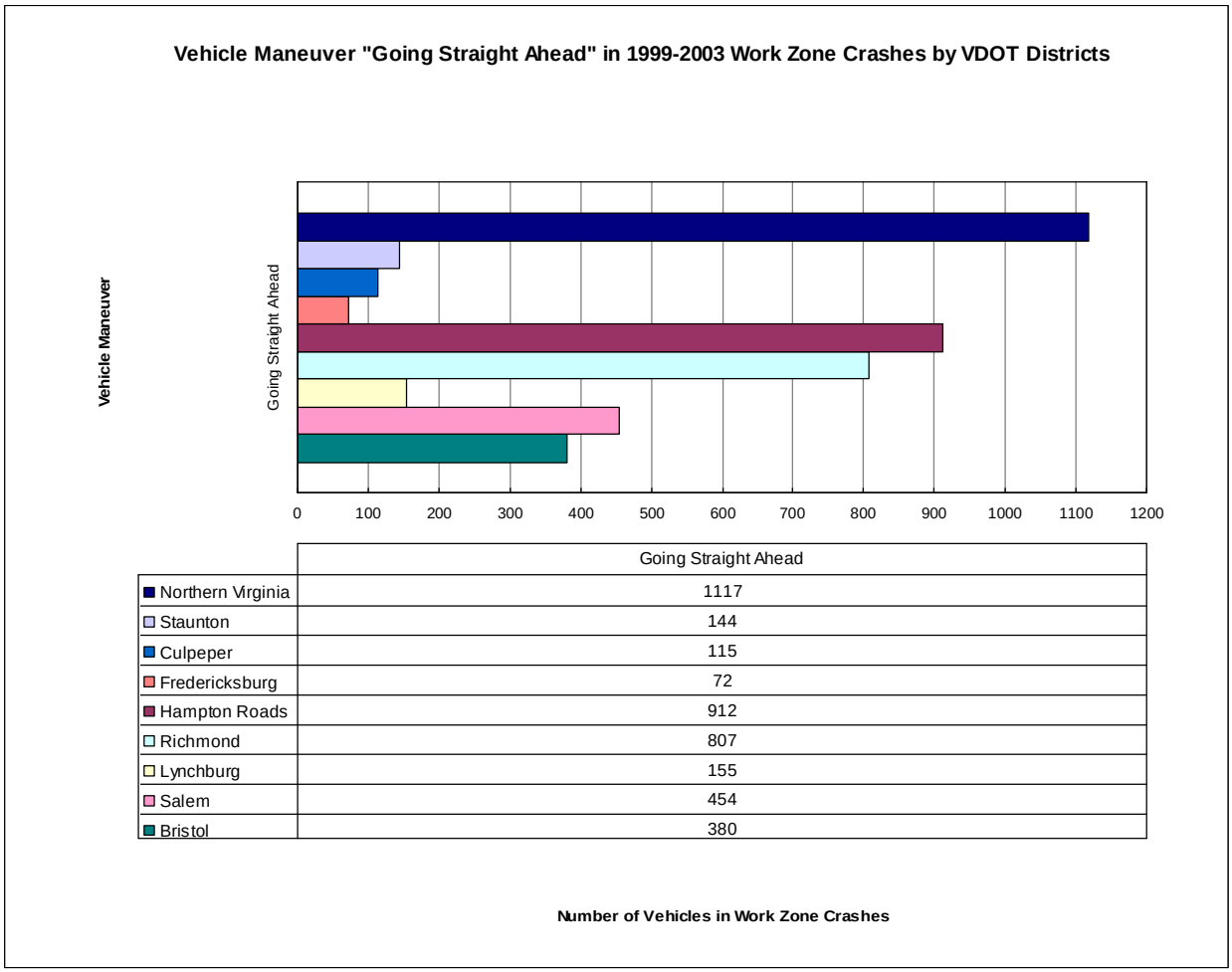
	Not Stated	Parked	Starting from Parked Position	Making U-Turn	Passing	Other	Starting in Traffic Lane	Backing	Ran Off Road - Left	Ran Off Road - Right	Making Right-Turn	Changing Lanes	Making Left-Turn	Slowing or Stopping	Stopped in Traffic Lane
Northern Virginia	25	4	8	13	14	24	21	30	66	47	54	252	126	315	436
Staunton	3	0	1	0	3	5	2	11	9	18	5	10	18	23	57
Culpeper	3	0	0	0	3	2	2	5	5	17	5	17	25	49	48
Fredericksburg	1	0	0	0	0	2	2	1	2	2	6	9	8	19	20
Hampton Roads	17	2	8	14	12	25	21	15	33	37	76	97	208	234	281
Richmond	15	3	6	13	10	29	24	19	20	36	48	98	182	165	209
Lynchburg	5	1	3	0	1	3	11	8	10	13	7	13	19	29	49
Salem	1	1	2	2	4	5	15	14	27	36	20	57	63	124	191
Bristol	7	2	1	2	17	4	15	10	26	30	24	46	44	75	127

Number of Vehicles in Work Zone Crashes*

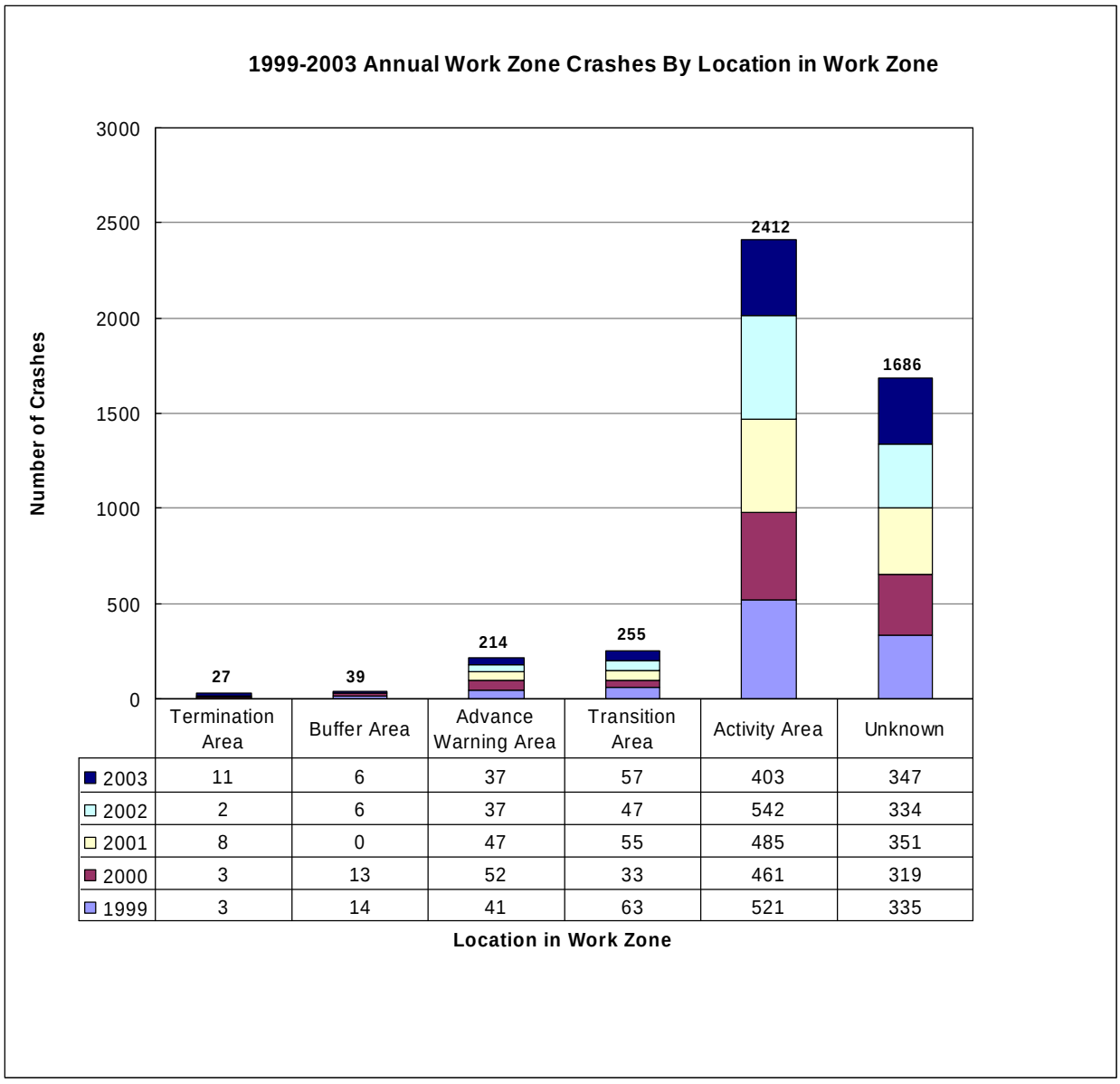
*4,156 vehicles involved in 1999-2003 crashes where vehicle maneuver was going straight ahead are not shown.

The chart on the previous page contains a summary of the 9,130 vehicles involved in work zone crashes (not the number of crashes) occurring between January 1, 1999 and December 31, 2003. The crashes are grouped by the 15 Vehicle Maneuvers identified in HTRIS. The data is presented as 5-year statewide totals for each Vehicle Maneuver. These are further classified by the VDOT District in which the crash occurred.

In 4,156 (or 85%) of the work zone crashes the vehicle maneuver was "Going Straight Ahead". Since this vehicle maneuver represents a majority of the crashes it is shown separately in the chart below rather than being included in the chart on the previous page. Of these 4,156 crashes 380 occurred in the Bristol District, 454 occurred in the Salem District, 155 occurred in the Lynchburg District, 807 occurred on the Richmond District, 912 occurred in the Hampton Roads District, 72 occurred in the Fredericksburg District, 115 occurred in the Culpeper District, 144 occurred in the Staunton District, and 1,117 occurred in the Northern Virginia District.



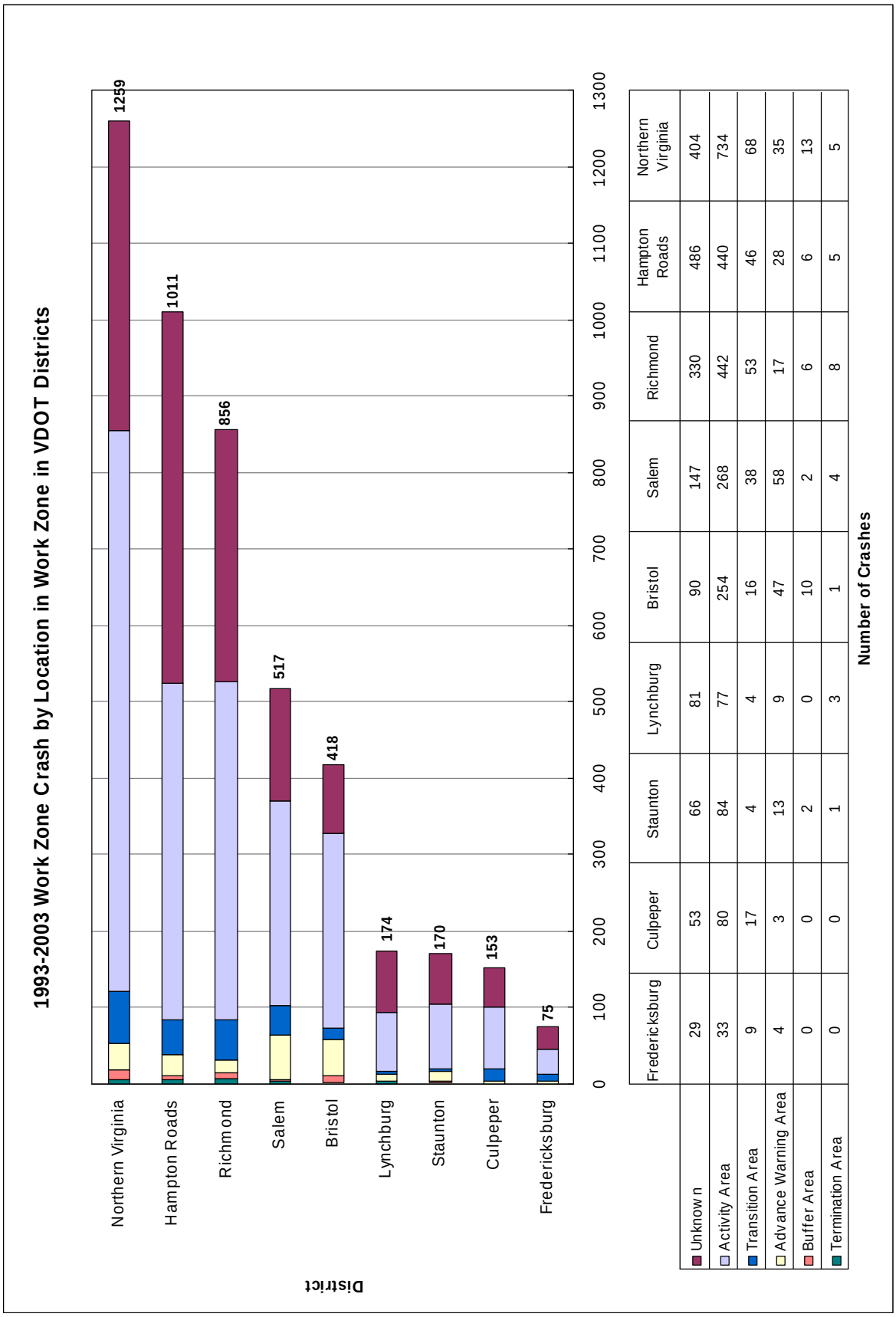
	Going Straight Ahead
Northern Virginia	1117
Staunton	144
Culpeper	115
Fredericksburg	72
Hampton Roads	912
Richmond	807
Lynchburg	155
Salem	454
Bristol	380



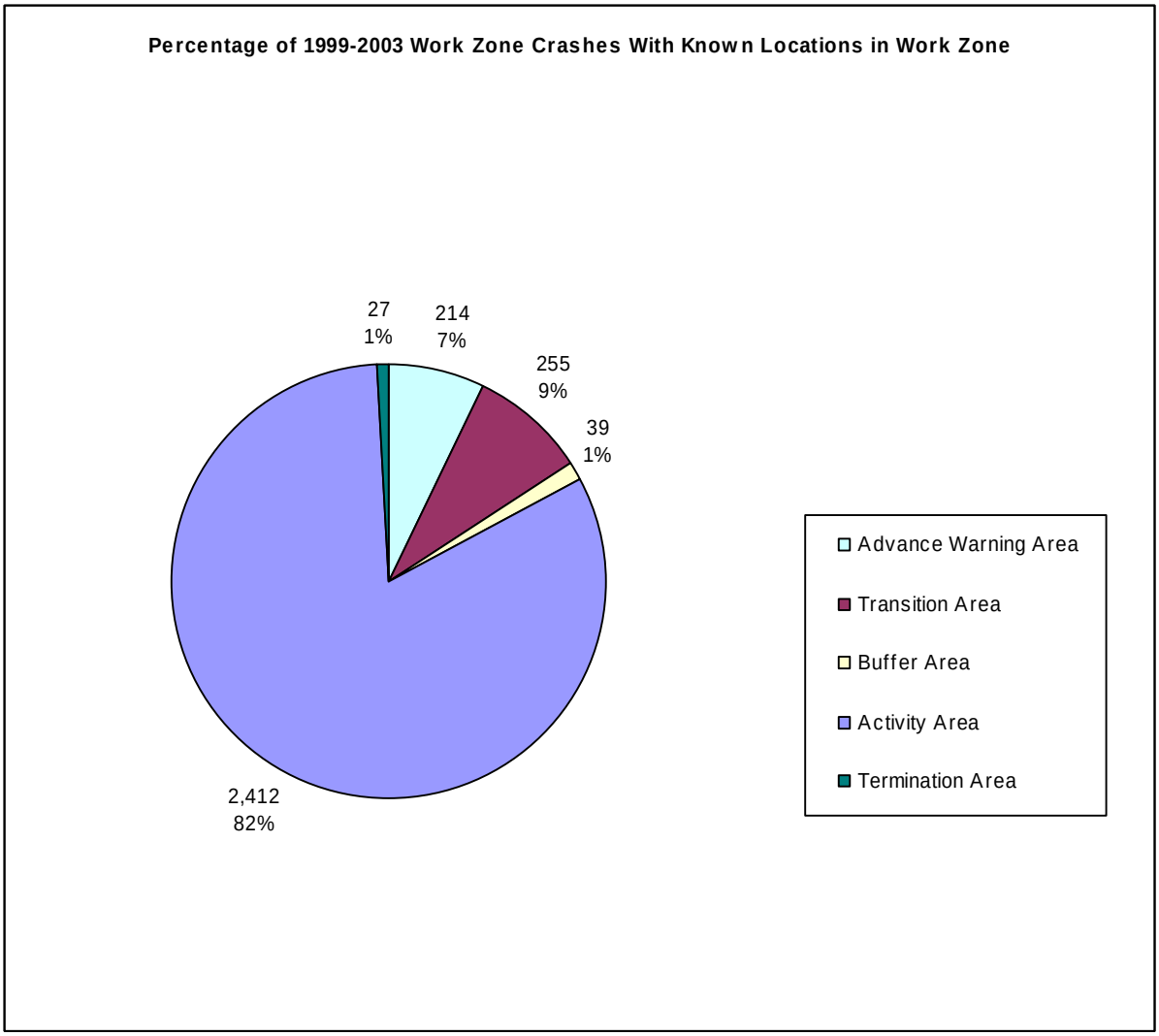
	Termination Area	Buffer Area	Advance Warning Area	Transition Area	Activity Area	Unknown
2003	11	6	37	57	403	347
2002	2	6	37	47	542	334
2001	8	0	47	55	485	351
2000	3	13	52	33	461	319
1999	3	14	41	63	521	335

This chart contains a summary of the 4,633 work zone crashes occurring between January 1, 1999 and December 31, 2003 based on the FR-300s provided by VDOT. The crashes are grouped by the Area in Work Zone in which the crash occurred. The data is presented as 5-year statewide totals for each Area in Work Zone.

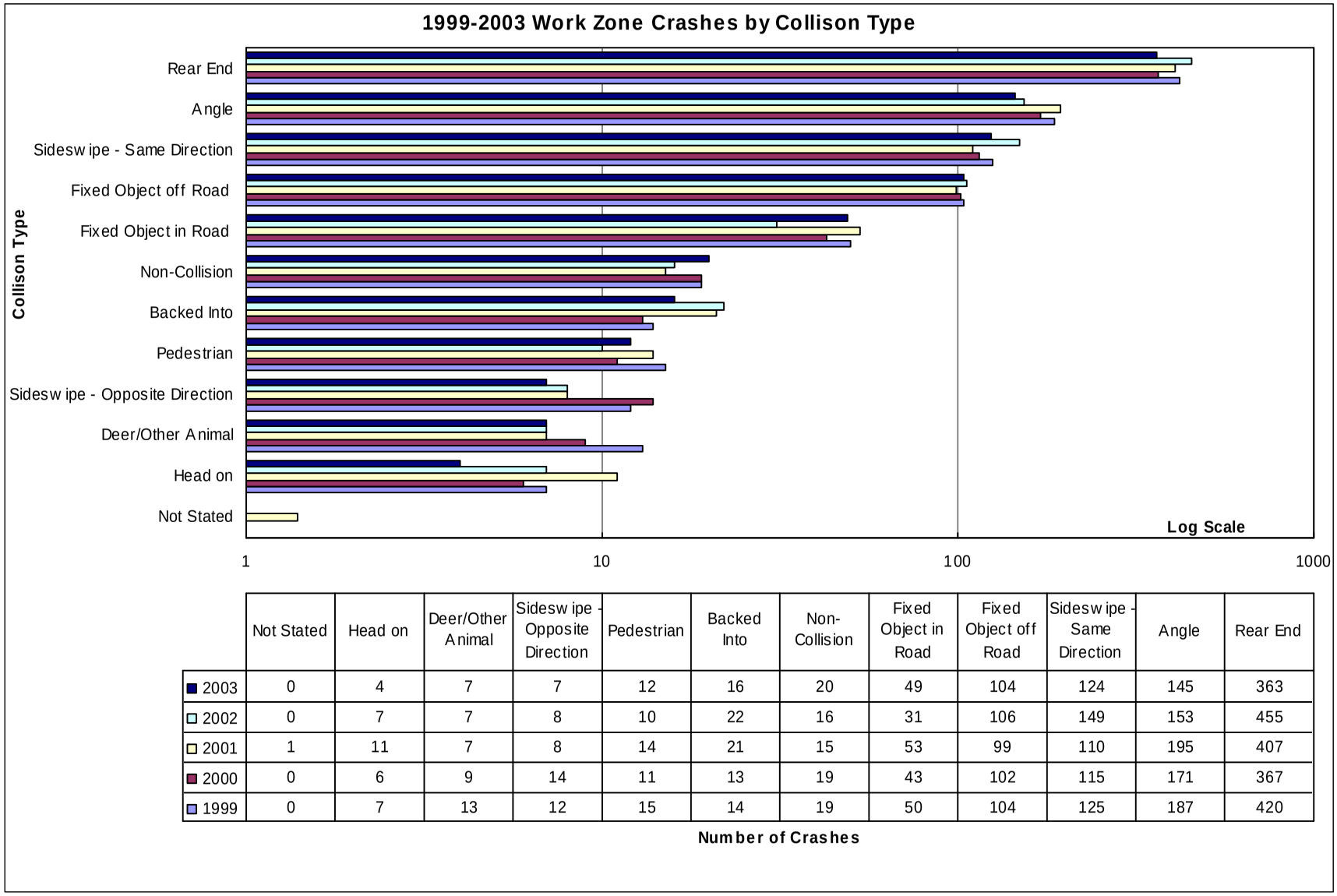
Note: When querying HTRIS, there are 4,618 crashes coded as roadway defect "4" (under repair). There are 4,633 FR-300s on file at VDOT for work zone crashes. There are 15 additional work zone crashes based on the FR-300s (the document numbers do not correspond to document numbers in HTRIS, possibly because they are supplemental reports). These 15 additional crashes were included in the Area in Work Zone graphs and tables.


1993-2003 Work Zone Crash by Location in Work Zone in VDOT Districts
Northern Virginia
Hampton Roads
Richmond
Salem
Bristol
Lynchburg
Staunton
Culpeper
Fredericksburg
1259
1011
856
517
418
174
170
153
75
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
District
Number of Crashes
Unknown
Activity Area
Transition Area
Advance Warning Area
Buffer Area
Termination Area
Fredericksburg 29 33 9 4 0 0
Culpeper 53 80 17 3 0 0
Staunton 66 84 4 13 2 1
Lynchburg 81 77 4 9 0 3
Bristol 90 254 16 47 10 1
Salem 147 268 38 58 2 4
Richmond 330 442 53 17 6 8
Hampton Roads 486 440 46 28 6 5
Northern Virginia 404 734 68 35 13 5

The chart on the previous page contains a summary of the 4,633 work zone crashes occurring between January 1, 1999 and December 31, 2003 based on the FR-300s provided by VDOT. The crashes are grouped by the Area in Work Zone in which the crash occurred. The data is presented as 5-year statewide totals for each Area in Work Zone. These are further classified by the VDOT District in which the crash occurred.



This chart contains a summary of the 2,947 work zone crashes occurring between January 1, 1999 and December 31, 2003 that occurred within a known location in the work zone. The 1,686 crashes that occurred within a work zone but that could not be located to one of the five areas (Advance Warning Area, Transition Area, Buffer Area, Activity Area, and Termination Area). The number of located crashes and the applicable percentage are shown in the chart.



	Not Stated	Head on	Deer/Other Animal	Sideswipe - Opposite Direction	Pedestrian	Backed Into	Non-Collision	Fixed Object in Road	Fixed Object off Road	Sideswipe - Same Direction	Angle	Rear End
2003	0	4	7	7	12	16	20	49	104	124	145	363
2002	0	7	7	8	10	22	16	31	106	149	153	455
2001	1	11	7	8	14	21	15	53	99	110	195	407
2000	0	6	9	14	11	13	19	43	102	115	171	367
1999	0	7	13	12	15	14	19	50	104	125	187	420

Number of Crashes

The chart on the previous page contains a summary of the 4,633 work zone crashes occurring between January 1, 1999 and December 31, 2003 based on the FR-300s provided by VDOT. The crashes are grouped by Collision Type. The data is presented as 5-year statewide totals for each Collision Type.

Note: Due to the large variation in numbers represented by this bar graph a logarithmic scale was used to display the number of crashes. The length of the bar for each surface condition needs to be read using the logarithmic scale shown on the x-axis of the graph.

APPENDIX

Data Tables

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Table 1: 1999-2003 Work Zone Crashes By Roadway System In VDOT Districts

SYSTEM	Crash Year	Bristol	Salem	Lynchburg	Richmond	Hampton Roads	Fredericksburg	Culpeper	Staunton	Northern Virginia	Statewide Totals
Unclassified	1999		1							8	**9**
Unclassified	2000						1		2	5	**8**
Unclassified	2001	1			6			1	1	8	**17**
Unclassified	2002		3						1	6	**10**
Unclassified	2003			1	1				1	4	**7**
Total Unclassfied Crashes		**1**	**4**	**1**	**7**	**0**	**1**	**1**	**5**	**31**	**51**
Interstate Route	1999	33	11		49	97	1	3	6	14	**214**
Interstate Route	2000	38	6		17	18	1	3	11	55	**149**
Interstate Route	2001	15	22		24	17	2	2	12	93	**187**
Interstate Route	2002	16	19		19	11	4	2	2	160	**233**
Interstate Route	2003	10	22		20	3	5	5	9	127	**201**
Crashes On Interstate Routes		**112**	**80**	**0**	**129**	**146**	**13**	**15**	**40**	**449**	**984**
State Primary Route	1999	72	47	11	111	116	8	13	17	66	**461**
State Primary Route	2000	68	91	32	60	115	3	22	13	64	**468**
State Primary Route	2001	46	62	21	55	97	6	23	28	83	**421**
State Primary Route	2002	39	85	33	74	126	10	28	10	91	**496**
State Primary Route	2003	18	65	32	57	126	12	17	16	65	**408**
Crashes On State Primary routes		**243**	**350**	**129**	**357**	**580**	**39**	**103**	**84**	**369**	**2254**
State Secondary Route	1999	10	8	8	36	9	1	10	3	61	**146**
State Secondary Route	2000	10	10	5	47	1	5	3	2	69	**152**
State Secondary Route	2001	10	10	8	49	4	2	5	5	91	**184**
State Secondary Route	2002	8	8	4	30	1		5	3	51	**110**
State Secondary Route	2003	9	13	2	35	1	10	5	7	43	**125**
Crashes On State Secondary Rou		**47**	**49**	**27**	**197**	**16**	**18**	**28**	**20**	**315**	**717**
City Street	1999	**2**	**4**	**5**	**28**	**61**	**1**		**4**	**4**	**109**
City Street	2000	4	8	1	22	38	1	1	3	3	**81**
City Street	2001	6	7	4	8	65	1	2	2	5	**100**
City Street	2002		4	4	10	33		2	8	8	**69**
City Street	2003		8	2	10	52	1	1	4	14	**92**
Crashes On City Street		**12**	**31**	**16**	**78**	**249**	**4**	**6**	**21**	**34**	**451**
County Road	1999				11					7	**18**
County Road	2000				**12**					**5**	**17**
County Road	2001				29					5	**34**
County Road	2002				23					8	**31**
County Road	2003				10					9	**19**
Crashes On County Street		**0**	**0**	**0**	**85**	**0**	**0**	**0**	**0**	**34**	**119**
Interstate Ramp	1999				1	13				2	**16**
Interstate Ramp	2000					2				2	**4**
Interstate Ramp	2001	**1**								**1**	**2**
Interstate Ramp	2002		2							9	**11**
Interstate Ramp	2003				**1**	**1**				**7**	**9**
Crashed on Interstate Ramp		**1**	**2**	**0**	**2**	**16**	**0**	**0**	**0**	**21**	**42**
5 Year Totals		**416**	**516**	**173**	**855**	**1007**	**75**	**153**	**170**	**1253**	**4618**

TABLE 2: Severity of 1999-2003 Work Zone Crashes By Roadway System

Roadway System (by Year)	Fatal Pedestrian	Fatal Vehicular	Injury to Pedestrian	Injury Vehicular	Property Damage Only	**Statewide Totals**
1999 Work Zone Crashes on Primary Routes	1	2	3	107	157	**270**
2000 Work Zone Crashes on Primary Routes	0	2	4	101	190	**297**
2001 Work Zone Crashes on Primary Routes	1	3	5	110	146	**265**
2002 Work Zone Crashes on Primary Routes	1	2	3	102	199	**307**
2003 Work Zone Crashes on Primary Routes	1	5	3	83	139	**231**
1999-2003 Work Zone Crashes on Primary Routes	4	14	18	503	831	**1370**
1999 Work Zone Crashes on Secondary Routes	1	0	3	59	82	**145**
2000 Work Zone Crashes on Secondary Routes	0	3	1	47	101	**152**
2001 Work Zone Crashes on Secondary Routes	0	0	3	65	116	**184**
2002 Work Zone Crashes on Secondary Routes	0	0	2	37	71	**110**
2003 Work Zone Crashes on Secondary Routes	0	1	6	36	83	**126**
1999-2003 Work Zone Crashes on Secondary Routes	1	4	15	244	453	**717**
1999 Work Zone Crashes on Interstate Routes	0	2	1	70	155	**228**
2000 Work Zone Crashes on Interstate Routes	0	2	0	63	88	**153**
2001 Work Zone Crashes on Interstate Routes	1	5	0	71	112	**189**
2002 Work Zone Crashes on Interstate Routes	0	3	1	98	142	**244**
2003 Work Zone Crashes on Interstate Routes	0	4	1	73	130	**208**
1999-2003 Work Zone Crashes on Interstate Routes	1	16	3	375	628	**1022**
1999 Work Zone Crashes on Non-VDOT System Routes	0	2	6	112	209	**329**
2000 Work Zone Crashes on Non-VDOT System Routes	0	0	6	89	182	**277**
2001 Work Zone Crashes on Non-VDOT System Routes	0	2	4	124	174	**304**
2002 Work Zone Crashes on Non-VDOT System Routes	0	1	3	96	197	**297**
2003 Work Zone Crashes on Non-VDOT System Routes	0	1	1	93	200	**295**
1999-2003 Work Zone Crashes on Non-VDOT System Routes	0	6	20	514	962	**1502**
Unclassified Crashes						**7**
5 Year Totals	**6**	**40**	**56**	**1636**	**2874**	**4618**

TABLE 3: 1999-2003 Quarterly Work Zone Crashes In VDOT Districts

Quarter	District	Mon	Tue	Wed	Thur	Fri	Sat	Sun	**Totals**
1	Bristol	14	11	9	9	8	7	4	**62**
1	Salem	14	6	11	14	11	5	7	**68**
1	Lynchburg	1	10	9	6	2	1	1	**30**
1	Richmond	22	32	25	43	33	14	9	**178**
1	Hampton Roads	32	28	27	36	45	31	11	**210**
1	Fredericksburg			1	2	3	4		**10**
1	Culpeper	2	1	4	1	2	2	2	**14**
1	Staunton	3	2	2	4	4	2		**17**
1	Northern Virginia	23	28	29	37	37	13	16	**183**
I quarter crashes		**111**	**118**	**117**	**152**	**145**	**79**	**50**	**772**
2	Bristol	28	21	21	21	17	12	4	**124**
2	Salem	23	28	27	32	32	12	19	**173**
2	Lynchburg	13	4	8	7	8		3	**43**
2	Richmond	27	37	39	50	31	19	11	**214**
2	Hampton Roads	34	27	34	54	46	30	19	**244**
2	Fredericksburg	2	3	3	5	2	1	1	**17**
2	Culpeper	8	10	8	12	6	4	3	**51**
2	Staunton	6	9	12	12	8	4	3	**54**
2	Northern Virginia	43	48	58	53	56	38	26	**322**
II quarter crashes		**184**	**187**	**210**	**246**	**206**	**120**	**89**	**1242**
3	Bristol	24	19	19	27	24	8	8	**129**
3	Salem	19	28	30	26	23	11	6	**143**
3	Lynchburg	9	9	9	13	7	5	5	**57**
3	Richmond	39	34	32	33	46	22	14	**220**
3	Hampton Roads	34	41	40	41	39	40	35	**270**
3	Fredericksburg	2	2	8	3	3	1		**19**
3	Culpeper	11	8	11	15	7	2	2	**56**
3	Staunton	10	10	7	14	14	7	5	**67**
3	Northern Virginia	50	67	65	59	52	48	37	**378**
III quarter crashes		**198**	**218**	**221**	**231**	**215**	**144**	**112**	**1339**
4	Bristol	14	17	17	23	17	7	6	**101**
4	Salem	18	24	31	20	25	9	5	**132**
4	Lynchburg	8	11	6	9	6	2	1	**43**
4	Richmond	49	40	39	31	57	17	10	**243**
4	Hampton Roads	32	50	48	37	54	28	34	**283**
4	Fredericksburg	4	7	7	4	4	3		**29**
4	Culpeper	4	8	5	6	2	2	5	**32**
4	Staunton	4	5	7	4	8	2	2	**32**
4	Northern Virginia	46	50	67	62	58	47	40	**370**
IV quarter crashes		**179**	**212**	**227**	**196**	**231**	**117**	**103**	**1265**
5 year totals		**672**	**735**	**775**	**825**	**797**	**460**	**354**	**4618**

TABLE 4: 1999-2003 Quarterly Work Zone Crashes By Day of Week

Quarter	Crash Year	Mon	Tue	Wed	Thur	Fri	Sat	Sun	**Total**
1	1999	27	34	23	43	36	25	9	**197**
1	2000	14	24	26	20	20	10	11	**125**
1	2001	25	16	22	29	28	13	9	**142**
1	2002	24	25	29	32	31	12	13	**166**
1	2003	21	19	17	28	30	19	8	**142**
I quarter crashes		**111**	**118**	**117**	**152**	**145**	**79**	**50**	**772**
(As % of Total)		**14%**	**15%**	**15%**	**20%**	**19%**	**10%**	**6%**	**100%**
2	1999	33	47	43	50	40	26	22	**261**
2	2000	27	33	37	40	47	29	14	**227**
2	2001	35	33	48	54	36	18	18	**242**
2	2002	41	29	34	52	43	15	16	**230**
2	2003	48	45	48	50	40	32	19	**282**
II quarter crashes		**184**	**187**	**210**	**246**	**206**	**120**	**89**	**1242**
(As % of Total)		**15%**	**15%**	**17%**	**20%**	**17%**	**10%**	**7%**	**100%**
3	1999	31	39	44	46	39	24	22	**245**
3	2000	45	28	46	51	53	35	24	**282**
3	2001	47	59	47	43	46	21	20	**283**
3	2002	43	48	48	55	42	38	24	**298**
3	2003	32	44	36	36	35	26	22	**231**
III quarter crashes		**198**	**218**	**221**	**231**	**215**	**144**	**112**	**1339**
(As % of Total)		**15%**	**16%**	**17%**	**17%**	**16%**	**11%**	**8%**	**100%**
4	1999	42	42	42	47	46	18	33	**270**
4	2000	37	40	42	29	53	27	17	**245**
4	2001	43	55	48	47	47	23	15	**278**
4	2002	31	41	50	41	55	32	16	**266**
4	2003	26	34	45	32	30	17	22	**206**
IV quarter crashes		**179**	**212**	**227**	**196**	**231**	**117**	**103**	**1265**
(As % of Total)		**14%**	**17%**	**18%**	**15%**	**18%**	**9%**	**8%**	**100%**
5 year totals		**672**	**735**	**775**	**825**	**797**	**460**	**354**	**4618**
(As % of Total)		**15%**	**16%**	**17%**	**18%**	**17%**	**10%**	**8%**	**100%**

TABLE 5: 1999-2003 Daily Work Zone Crashes By Day of the Week

Code	DAY OF WEEK	Crash Year	12 AM to 6AM	4PM to 7PM	6AM to 9AM	7PM to 12AM	9AM to 4PM	**Statewide Totals**
1	Monday	1999	5	25	19	15	69	**133**
1	Monday	2000	6	25	9	22	61	**123**
1	Monday	2001	11	28	12	23	76	**150**
1	Monday	2002	3	25	19	13	79	**139**
1	Monday	2003	9	13	4	24	77	**127**
Crashes on Monday			**34**	**116**	**63**	**97**	**362**	**672**
2	Tuesday	1999	5	27	19	33	78	**162**
2	Tuesday	2000	4	27	18	18	58	**125**
2	Tuesday	2001	7	21	29	25	81	**163**
2	Tuesday	2002	6	32	10	25	70	**143**
2	Tuesday	2003	9	25	12	21	75	**142**
Crashes on Tuesday			**31**	**132**	**88**	**122**	**362**	**735**
3	Wednesday	1999	4	22	21	24	81	**152**
3	Wednesday	2000	9	21	19	19	83	**151**
3	Wednesday	2001	5	28	15	34	83	**165**
3	Wednesday	2002	6	28	15	33	79	**161**
3	Wednesday	2003	7	23	16	25	75	**146**
Crashes on Wednesday			**31**	**122**	**86**	**135**	**401**	**775**
4	Thursday	1999	13	31	16	38	88	**186**
4	Thursday	2000	12	22	23	10	73	**140**
4	Thursday	2001	13	26	25	28	81	**173**
4	Thursday	2002	10	26	21	30	93	**180**
4	Thursday	2003	14	23	16	34	59	**146**
Crashes on Thursday			**62**	**128**	**101**	**140**	**394**	**825**
5	Friday	1999	12	32	17	21	79	**161**
5	Friday	2000	16	31	25	27	74	**173**
5	Friday	2001	9	23	17	23	85	**157**
5	Friday	2002	10	33	20	24	84	**171**
5	Friday	2003	11	30	18	20	56	**135**
Crashes onFriday			**58**	**149**	**97**	**115**	**378**	**797**
6	Saturday	1999	13	12	5	24	39	**93**
6	Saturday	2000	15	14	12	15	45	**101**
6	Saturday	2001	12	16	7	13	27	**75**
6	Saturday	2002	13	20	1	19	44	**97**
6	Saturday	2003	16	10	9	26	33	**94**
Crashes on Saturdays			**69**	**72**	**34**	**97**	**188**	**460**
7	Sunday	1999	15	9	6	18	38	**86**
7	Sunday	2000	12	13	4	17	20	**66**
7	Sunday	2001	10	12	3	14	23	**62**
7	Sunday	2002	15	12	2	17	23	**69**
7	Sunday	2003	14	10	4	16	27	**71**
Crashes on Sundays			**66**	**56**	**19**	**82**	**131**	**354**
5 yr Totals			**351**	**775**	**488**	**788**	**2216**	**4618**

TABLE 6: 1999-2003 Daily Work Zone Crashes By District

Code	Day Of Week	District	12 AM to 6AM	4PM to 7PM	6AM to 9AM	7PM to 12AM	9AM to 4PM	**Statewide Totals**
1	Monday	Bristol	1	19	5	8	47	**80**
1	Monday	Salem	1	11	5	8	49	**74**
1	Monday	Lynchburg	3	6	1	6	15	**31**
1	Monday	Richmond	7	33	16	21	60	**137**
1	Monday	Hampton Roads	9	21	9	24	69	**132**
1	Monday	Fredericksburg				2	6	**8**
1	Monday	Culpeper		2	4	4	15	**25**
1	Monday	Staunton		**2**	**5**	**3**	**13**	**23**
1	Monday	Northern Virginia	13	22	18	21	88	**162**
	Crashes On Monday		**34**	**116**	**63**	**97**	**362**	**672**
2	Tuesday	Bristol	2	14	10	8	34	**68**
2	Tuesday	Salem	1	16	10	8	51	**86**
2	Tuesday	Lynchburg	1	12	5	1	15	**34**
2	Tuesday	Richmond	3	22	15	27	76	**143**
2	Tuesday	Hampton Roads	6	26	19	30	65	**146**
2	Tuesday	Fredericksburg		2	4	1	5	**12**
2	Tuesday	Culpeper		5	2	2	18	**27**
2	Tuesday	Staunton	3	8	2	3	10	**26**
2	Tuesday	Northern Virginia	15	27	21	42	88	**193**
	Crashes On Tuesday		**31**	**132**	**88**	**122**	**362**	**735**
3	Wednesday	Bristol	2	13	10	1	40	**66**
3	Wednesday	Salem	2	15	13	13	56	**99**
3	Wednesday	Lynchburg		9	4	2	17	**32**
3	Wednesday	Richmond	6	24	10	24	71	**135**
3	Wednesday	Hampton Roads	6	21	19	25	78	**149**
3	Wednesday	Fredericksburg	2	3	2	4	8	**19**
3	Wednesday	Culpeper		6	3	2	17	**28**
3	Wednesday	Staunton	1	5	2	6	14	**28**
3	Wednesday	Northern Virginia	12	26	23	58	100	**219**
	Crashes On Wednesday		**31**	**122**	**86**	**135**	**401**	**775**
4	Thursday	Bristol	5	16	4	8	47	**80**
4	Thursday	Salem	7	20	11	7	47	**92**
4	Thursday	Lynchburg	4	4	5	4	18	**35**
4	Thursday	Richmond	4	21	23	37	72	**157**
4	Thursday	Hampton Roads	15	33	24	32	64	**168**
4	Thursday	Fredericksburg	3	3	2	4	2	**14**
4	Thursday	Culpeper	**1**	**9**	**5**	**4**	**15**	**34**
4	Thursday	Staunton	3	5	5	4	17	**34**
4	Thursday	Northern Virginia	20	17	22	40	112	**211**
	Crashes On Thursday		**62**	**128**	**101**	**140**	**394**	**825**
5	Friday	Bristol	5	10	4	6	41	**66**
5	Friday	Salem	6	19	11	13	42	**91**
5	Friday	Lynchburg	2	4	8	1	8	**23**
5	Friday	Richmond	8	34	20	32	73	**167**
5	Friday	Hampton Roads	17	32	21	26	88	**184**
5	Friday	Fredericksburg	2	3	1	1	5	**12**
5	Friday	Culpeper		1	6	1	9	**17**
5	Friday	Staunton	1	7	2	5	19	**34**
5	Friday	Northern Virginia	17	39	24	30	93	**203**
	Crashes On Friday		**58**	**149**	**97**	**115**	**378**	**797**
6	Saturday	Bristol	4	4	2	9	15	**34**
6	Saturday	Salem	3	5	4	9	16	**37**
6	Saturday	Lynchburg	1	1		2	4	**8**
6	Saturday	Richmond	13	9	6	13	31	**72**
6	Saturday	Hampton Roads	22	23	9	30	45	**129**
6	Saturday	Fredericksburg	1	2	1	1	4	**9**
6	Saturday	Culpeper			1	3	6	**10**
6	Saturday	Staunton	3		2	2	8	**15**
6	Saturday	Northern Virginia	22	28	9	28	59	**146**
	Crashes On Saturday		**69**	**72**	**34**	**97**	**188**	**460**
7	Sunday	Bristol	2	3	1	5	11	**22**
7	Sunday	Salem	7	5	2	10	13	**37**
7	Sunday	Lynchburg	4	1		1	4	**10**
7	Sunday	Richmond	6	8	3	9	18	**44**
7	Sunday	Hampton Roads	21	12	4	23	39	**99**
7	Sunday	Fredericksburg	**1**					**1**
7	Sunday	Culpeper	3	3		2	4	**12**
7	Sunday	Staunton	4	1	1	1	3	**10**
7	Sunday	Northern Virginia	18	23	8	31	39	**119**
	Crashes On Sunday		**66**	**56**	**19**	**82**	**131**	**354**
	5 yr Totals		**351**	**775**	**488**	**788**	**2216**	**4618**

TABLE 7: Surface Condition of 1999-2003 Work Zone Crashes By Weather

Code	Surface Condition	Crash Year	Not Stated	Clear	Cloudy	Fog	Mist	Raining	Snowing	Sleeting	Smoke Dust	Other	Total
1	Dry	1999		701	126		1						**828**
1	Dry	2000		600	142	4	1						**747**
1	Dry	2001		669	133	5	1						**808**
1	Dry	2002		667	155		3					1	**826**
1	Dry	2003		519	153	8	2						**682**
Dry road crashes			**0**	**3156**	**709**	**17**	**8**	**0**	**0**	**0**	**0**	**1**	**3891**
2	Wet	1999	2	5	28	2	16	67					**120**
2	Wet	2000	1	9	19	2	20	58					**109**
2	Wet	2001		6	28	3	18	58				1	**114**
2	Wet	2002		9	19	2	11	59					**100**
2	Wet	2003	4	9	24	1	25	77					**140**
Wet road crashes			**7**	**38**	**118**	**10**	**90**	**319**	**0**	**0**	**0**	**1**	**583**
3	Snowy	1999							3				**3**
3	Snowy	2000		1					4				**5**
3	Snowy	2001							4				**4**
3	Snowy	2002		2					8				**10**
3	Snowy	2003			2				5				**7**
Snowy Road Crashes			**0**	**3**	**2**	**0**	**0**	**0**	**24**	**0**	**0**	**0**	**29**
4	Icy	1999		2			1			1			**4**
4	Icy	2000		2						3			**5**
4	Icy	2001			1								**1**
4	Icy	2002		2	1	1				1			**5**
4	Icy	2003		2		1				2			**5**
Icy road Crashes			**0**	**8**	**2**	**2**	**1**	**0**	**0**	**7**	**0**	**0**	**20**
5	Muddy	1999		5									**5**
5	Muddy	2001		3			1						**4**
5	Muddy	2002	1	1									**2**
5	Muddy	2003		1	2								**3**
Muddy Road Crashes			**1**	**10**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**14**
6	Oily	2000		1									**1**
6	Oily	2002		1									**1**
6	Oily	2003	1	1									**2**
Oliy Road Crashes			**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
7	Other	1999		8	2		1						**11**
7	Other	2000		9	1								**10**
7	Other	2001		11	2	1							**14**
7	Other	2002		14	1								**15**
7	Other	2003		14	4		1				1		**20**
Other Crashes			**0**	**56**	**10**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**70**
8	Not Stated	1999	1		1								**2**
8	Not Stated	2000	2										**2**
8	Not Stated	2002	1										**1**
8	Not Stated	2003	2										**2**
Not Stated			**6**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**
5yr totals			**15**	**3274**	**844**	**30**	**102**	**319**	**24**	**7**	**1**	**2**	**4618**

TABLE 8: Weather Conditions In 1999-2003 Work Zone Crashes By Surface Condition By District

Surface Condition Code	District	Clear	Cloudy	Fog	Mist	Raining	Snowing	Sleeting	Smoke Dust	Other	Total
1	Bristol	250	101	1							**352**
1	Salem	332	100	4	1						**437**
1	Lynchburg	128	19								**147**
1	Richmond	624	101		1						**726**
1	Hampton	718	103	7							**828**
1	Fredricksburg	59	6								**65**
1	Culpepper	107	23		1						**131**
1	Staunton	108	39	3							**150**
1	Northern	830	217	2	5					1	**1055**
Dry road crashes		**3156**	**709**	**17**	**8**	**0**	**0**	**0**	**0**	**1**	**3891**
2	Bristol	4	14	1	8	30					**57**
2	Salem	2	16	4	8	33					**63**
2	Lynchburg		5		4	9					**19**
2	Richmond	7	19	1	18	52					**99**
2	Hampton	11	22	2	18	90				1	**145**
2	Fredricksburg		2	1	1	3					**7**
2	Culpepper		4		6	7					**18**
2	Staunton		3		2	9					**14**
2	Northern	14	33	1	25	86					**161**
Wet road crashes		**38**	**118**	**10**	**90**	**319**	**0**	**0**	**0**	**1**	**583**
3	Bristol						5				**5**
3	Salem		1				3				**4**
3	Lynchburg						1				**1**
3	Richmond						2				**2**
3	Hampton						1				**1**
3	Fredricksburg						1				**1**
3	Culpepper						1				**1**
3	Staunton	1					1				**2**
3	Northern	2	1				9				**12**
Snowy Road Crashes		**3**	**2**	**0**	**0**	**0**	**24**	**0**	**0**	**0**	**29**
4	Salem		2		1			2			**5**
4	Lynchburg	1									**1**
4	Richmond	2		2				1			**5**
4	Hampton	1						2			**3**
4	Northern	4						2			**6**
Icy road Crashes		**8**	**2**	**2**	**1**	**0**	**0**	**7**	**0**	**0**	**20**
5	Lynchburg	1									**2**
5	Richmond	5			1						**6**
5	Hampton	1	2								**3**
5	Fredricksburg	1									**1**
5	Staunton	1									**1**
5	Northern	1									**1**
Muddy Road Crashes		**10**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**14**
6	Richmond	2									**3**
6	Culpepper	1									**1**
Oliy Road Crashes		**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
7	Bristol	2									**2**
7	Salem	4	2		1						**7**
7	Lynchburg	2	1								**3**
7	Richmond	12	1		1						**14**
7	Hampton	19	3	1					1		**24**
7	Fredricksburg	1									**1**
7	Culpepper	1									**1**
7	Staunton	2									**2**
7	Northern	13	3								**16**
Other Crashes		**56**	**10**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**70**
8	Hampton		1								**3**
8	Culpepper										**1**
8	Staunton										**1**
8	Northern										**2**
Not Stated		**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**
5 yr totals		**3274**	**844**	**30**	**102**	**319**	**24**	**7**	**1**	**2**	**4618**

TABLE 9: Types of Vehicles Involved In 1999-2003 Work Zone Crashes
By Number of Vehicles Involved In Crash

		No of vehicles involved in crash							
Vehicle Type	Crash Year	1	2	3	4	5	6	7	**Total Crashes**
Passenger Vehicle	1999	826	666	104	18	2	1	1	**1618**
Passenger Vehicle	2000	744	602	98	23	10	2	2	**1481**
Passenger Vehicle	2001	807	650	92	23	3	1		**1576**
Passenger Vehicle	2002	831	678	115	27	7	1		**1659**
Passenger Vehicle	2003	720	559	86	20	5	3	1	**1394**
Passenger Vehicle Crashes		**3928**	**3155**	**495**	**111**	**27**	**8**	**4**	**7728**
Motorcycle	1999	8	1						**9**
Motorcycle	2000	6	1						**7**
Motorcycle	2001	12	4						**16**
Motorcycle	2002	10	3						**13**
Motorcycle	2003	11	3						**14**
Motorcycle Crashes		**47**	**12**	**0**	**0**	**0**	**0**	**0**	**59**
Not stated	1999	19	38	7	4				**68**
Not stated	2000	30	34	11	1	1			**77**
Not stated	2001	34	28	13	2				**77**
Not stated	2002	32	36	9	2	2			**81**
Not stated	2003	36	37	9					**82**
Not stated		**151**	**173**	**49**	**9**	**3**	**0**	**0**	**385**
Other	1999	4	4	1					**9**
Other	2000	1	4						**5**
Other	2001	5	4	2	1				**12**
Other	2002	4	5						**9**
Other	2003	1	3						**4**
Other Crashes		**15**	**20**	**3**	**1**	**0**	**0**	**0**	**39**
Truck	1999	110	85	12	2				**209**
Truck	2000	98	64	3	2	1			**168**
Truck	2001	87	83	3	3				**176**
Truck	2002	83	88	9	4	1			**185**
Truck	2003	92	74	11	3	1			**181**
Truck Crashes		**470**	**394**	**38**	**14**	**3**	**0**	**0**	**919**
5 yr total (Number of Vehicles)		**4611**	**3754**	**585**	**135**	**33**	**8**	**4**	**9130**

TABLE 10: Severity Of 1999-2003 Work Zone Crashes
By Number of Vehicles Involved In Crash

		No of vehicles involved in crash							
Vehicle Type	Severity	1	2	3	4	5	6	7	**Total Crashes**
Passenger Vehicle	0	4	1						**5**
Passenger Vehicle	1	27	19	5	6	2	2		**61**
Passenger Vehicle	2	39							**39**
Passenger Vehicle	3	1424	1149	249	55	14	4	3	**2898**
Passenger Vehicle	4	2434	1986	241	50	11	2	1	**4725**
Passenger Vehicle Crashes		**3928**	**3155**	**495**	**111**	**27**	**8**	**4**	**7728**
Motorcycle	1	3							**3**
Motorcycle	3	40	10						**50**
Motorcycle	4	4	2						**6**
Motorcycle Crashes		**47**	**12**	**0**	**0**	**0**	**0**	**0**	**59**
Not stated	0	1							**1**
Not stated	1	1	1	1					**3**
Not stated	2	10							**10**
Not stated	3	38	55	15	4	2			**114**
Not stated	4	101	117	33	5	1			**257**
Not stated		**151**	**173**	**49**	**9**	**3**	**0**	**0**	**385**
Other	3	9	16	2	1				**28**
Other	4	6	4	1					**11**
Other Crashes		**15**	**20**	**3**	**1**	**0**	**0**	**0**	**39**
Truck	0	1							**1**
Truck	1	9	4	3	1	2			**19**
Truck	2	7	1						**8**
Truck	3	125	112	21	9	1			**268**
Truck	4	328	277	14	4				**623**
Truck Crashes		**470**	**394**	**38**	**14**	**3**	**0**	**0**	**919**
5 year totals		**4611**	**3754**	**585**	**135**	**33**	**8**	**4**	**9130**

TABLE 11: Types of Vehicles Involved In 1999-2003 Work Zone Crashes
By Number Of Vehicles Involved In Crash In VDOT Districts

		No of vehicles involved in crash							
Veh Type	District	1	2	3	4	5	6	7	**Total Crashes**
Passenger Vehicle	Bristol	332	264	28	7	3	1	1	**636**
Passenger Vehicle	Salem	448	340	53	16	3	1	1	**862**
Passenger Vehicle	Lynchburg	144	114	19	2				**279**
Passenger Vehicle	Richmond	733	604	85	14	3	2		**1441**
Passenger Vehicle	Hampton Roads	885	729	113	22	6	1		**1756**
Passenger Vehicle	Fredericksburg	61	51	4	3				**119**
Passenger Vehicle	Culpeper	125	101	19	6	1			**252**
Passenger Vehicle	Staunton	133	100	13	2				**248**
Passenger Vehicle	Northern Virginia	1067	852	161	39	11	3	2	**2135**
Passenger Vehicle Crashes		**3928**	**3155**	**495**	**111**	**27**	**8**	**4**	**7728**
Motorcycle	Bristol	3							**3**
Motorcycle	Salem	1	2						**3**
Motorcycle	Lynchburg	3							**3**
Motorcycle	Richmond	3	2						**5**
Motorcycle	Hampton Roads	9	6						**15**
Motorcycle	Fredericksburg	1							**1**
Motorcycle	Culpeper	5							**5**
Motorcycle	Staunton	4							**4**
Motorcycle	Northern Virginia	18	2						**20**
Motorcycle Crashes		**47**	**12**	**0**	**0**	**0**	**0**	**0**	**59**
Not stated	Bristol	14	10	3					**27**
Not stated	Salem	8	11	5	1	1			**26**
Not stated	Lynchburg	8	2	1					**11**
Not stated	Richmond	39	41	10	3				**93**
Not stated	Hampton Roads	37	40	5	2				**84**
Not stated	Fredericksburg	2	3	1		1			**7**
Not stated	Culpeper	5	3	2	1				**11**
Not stated	Staunton	5	3	1					**9**
Not stated	Northern Virginia	33	60	21	2	1			**117**
Not stated		**151**	**173**	**49**	**9**	**3**	**0**	**0**	**385**
Other	Bristol		3	1					**4**
Other	Salem	2	3						**5**
Other	Lynchburg		1						**1**
Other	Richmond	2	2						**4**
Other	Hampton Roads	5	5	2					**12**
Other	Culpeper	2							**2**
Other	Northern Virginia	4	6		1				**11**
Other Crashes		**15**	**20**	**3**	**1**	**0**	**0**	**0**	**39**
Truck	Bristol	67	56	13	3	1			**140**
Truck	Salem	56	59	4	1				**120**
Truck	Lynchburg	18	14	1					**33**
Truck	Richmond	72	56	8	4	1			**141**
Truck	Hampton Roads	71	50	2	1	1			**125**
Truck	Fredericksburg	11	5	1					**17**
Truck	Culpeper	16	10						**26**
Truck	Staunton	28	20						**48**
Truck	Northern Virginia	131	124	9	5				**269**
Truck Crashes		**470**	**394**	**38**	**14**	**3**	**0**	**0**	**919**
5 yr total (Number of Vehicles)		**4611**	**3754**	**585**	**135**	**33**	**8**	**4**	**9130**

TABLE 12: Types of Vehicle Maneuvers Involved In 1999-2003 Annual Work Zone Crashes

Code	Vehicle Maneuver Description	1999	2000	2001	2002	2003	5 Year Total
16	Not Stated	22	19	5	13	18	**77**
11	Parked	3	2	2	5	1	**13**
7	Starting from Parked Position	3	7	5	12	2	**29**
4	Making U-Turn	6	7	10	9	12	**44**
13	Passing	19	15	11	14	5	**64**
15	Other	28	11	21	20	19	**99**
6	Starting in Traffic Lane	30	23	24	16	20	**113**
12	Backing	18	15	23	36	21	**113**
10	Ran Off Road - Left	36	34	41	38	49	**198**
9	Ran Off Road - Right	46	46	47	53	44	**236**
2	Making Right-Turn	63	55	52	34	41	**245**
14	Changing Lanes	118	85	112	149	135	**599**
3	Making Left-Turn	149	155	147	132	110	**693**
5	Slowing or Stopping	234	153	210	238	198	**1033**
8	Stopped in Traffic Lane	288	292	274	302	262	**1418**
1	Going Straight Ahead	850	819	873	876	738	**4156**
	Totals	**1913**	**1738**	**1857**	**1947**	**1675**	**9130**

TABLE 13: 1999-2003 Annual Work Zone Crashes In VDOT Districts By Vehicle Maneuver

Code	Vehicle Maneuver Description	District	1999	2000	2001	2002	2003	5 Year Total
1	Going Straight Ahead	Bristol	102	116	77	54	31	**380**
1	Going Straight Ahead	Salem	58	104	91	110	91	**454**
1	Going Straight Ahead	Lynchburg	20	32	24	41	38	**155**
1	Going Straight Ahead	Richmond	230	158	152	144	123	**807**
1	Going Straight Ahead	Hampton Roads	229	157	179	176	171	**912**
1	Going Straight Ahead	Fredricksburg	7	15	11	17	22	**72**
1	Going Straight Ahead	Culpepper	20	30	28	21	16	**115**
1	Going Straight Ahead	Staunton	28	26	41	24	25	**144**
1	Going Straight Ahead	Northern Virginia	156	181	270	289	221	**1117**
Vehicle Maneuver 1 crashes			**850**	**819**	**873**	**876**	**738**	**4156**
2	Making Right Turn	Bristol	7	7	4	4	2	**24**
2	Making Right Turn	Salem	6	6	2	2	4	**20**
2	Making Right Turn	Lynchburg		1		3	3	**7**
2	Making Right Turn	Richmond	9	11	13	8	7	**48**
2	Making Right Turn	Hampton Roads	25	17	16	7	11	**76**
2	Making Right Turn	Fredricksburg	1			2	3	**6**
2	Making Right Turn	Culpepper	1		2	2		**5**
2	Making Right Turn	Staunton	1	2		1	1	**5**
2	Making Right Turn	Northern Virginia	13	11	15	5	10	**54**
Vehicle Maneuver 2 crashes			**63**	**55**	**52**	**34**	**41**	**245**
3	Making Left Turn	Bristol	14	19	5	6		**44**
3	Making Left Turn	Salem	5	15	15	18	10	**63**
3	Making Left Turn	Lynchburg	4	4	4	5	2	**19**
3	Making Left Turn	Richmond	43	40	38	37	24	**182**
3	Making Left Turn	Hampton Roads	48	45	41	38	36	**208**
3	Making Left Turn	Fredricksburg	1		1	1	5	**8**
3	Making Left Turn	Culpepper	9	7	7	1	1	**25**
3	Making Left Turn	Staunton	5	2	4	4	3	**18**
3	Making Left Turn	Northern Virginia	20	23	32	22	29	**126**
Vehicle Maneuver 3 crashes			**149**	**155**	**147**	**132**	**110**	**693**
4	Making U Turn	Bristol	1			1		**2**
4	Making U Turn	Salem			1		1	**2**
4	Making U Turn	Richmond		1	4	4	4	**13**
4	Making U Turn	Hampton Roads	3	3	3	1	4	**14**
4	Making U Turn	Northern Virginia	2	3	2	3	3	**13**
Vehicle Maneuver4 crashes			6	7	10	9	12	**44**
5	Slowing or Stopping	Bristol	26	16	10	13	10	**75**
5	Slowing or Stopping	Salem	12	27	21	30	34	**124**
5	Slowing or Stopping	Lynchburg	2	8	8	3	8	**29**
5	Slowing or Stopping	Richmond	51	19	31	35	29	**165**
5	Slowing or Stopping	Hampton Roads	97	23	36	40	38	**234**
5	Slowing or Stopping	Fredricksburg	6	1	2	3	7	**19**
5	Slowing or Stopping	Culpepper	4	5	15	15	10	**49**
5	Slowing or Stopping	Staunton	4	3	5	4	7	**23**
5	Slowing or Stopping	Northern Virginia	32	51	82	95	55	**315**
Vehicle Maneuver5 crashes			234	153	210	238	198	**1033**

TABLE 13: 1999-2003 Annual Work Zone Crashes In VDOT Districts By Vehicle Maneuver (CONTINUED)

Code	Vehicle Maneuver Description	District	1999	2000	2001	2002	2003	5 Year Total
6	Starting in Traffic Lane	Bristol	5	3	2	3	2	**15**
6	Starting in Traffic Lane	Salem	3	2	6	3	1	**15**
6	Starting in Traffic Lane	Lynchburg	2	3		3	3	**11**
6	Starting in Traffic Lane	Richmond	7	6	6	3	2	**24**
6	Starting in Traffic Lane	Hampton Roads	10	1	6	1	3	**21**
6	Starting in Traffic Lane	Fredricksburg	1				1	**2**
6	Starting in Traffic Lane	Culpepper		1	1			**2**
6	Starting in Traffic Lane	Staunton		2				**2**
6	Starting in Traffic Lane	Northern Virginia	2	5	3	3	8	**21**
Vehicle Maneuver 6 crashes			30	23	24	16	20	**113**
7	Starting from Parked Position	Bristol				1		**1**
7	Starting from Parked Position	Salem			1	1		**2**
7	Starting from Parked Position	Lynchburg		1	1	1		**3**
7	Starting from Parked Position	Richmond		3	1	1	1	**6**
7	Starting from Parked Position	Hampton Roads	2	1		4	1	**8**
7	Starting from Parked Position	Staunton		1				**1**
7	Starting from Parked Position	Northern Virginia	1	1	2	4		**8**
Vehicle Maneuver7 crashes			3	7	5	12	2	**29**
8	Stopped in Traffic Lane	Bristol	35	30	32	20	10	**127**
8	Stopped in Traffic Lane	Salem	29	44	21	47	50	**191**
8	Stopped in Traffic Lane	Lynchburg	3	15	11	17	3	**49**
8	Stopped in Traffic Lane	Richmond	59	37	44	35	34	**209**
8	Stopped in Traffic Lane	Hampton Roads	82	49	51	47	52	**281**
8	Stopped in Traffic Lane	Fredricksburg	1	2	4	5	8	**20**
8	Stopped in Traffic Lane	Culpepper	13	14	4	11	6	**48**
8	Stopped in Traffic Lane	Staunton	5	10	24	3	15	**57**
8	Stopped in Traffic Lane	Northern Virginia	61	91	83	117	84	**436**
Vehicle Maneuver 8 crashes			288	292	274	302	262	**1418**
9	Ran Off Road - Right	Bristol	6	10	6	3	5	**30**
9	Ran Off Road - Right	Salem	4	9	8	10	5	**36**
9	Ran Off Road - Right	Lynchburg	2	3	3	4	1	**13**
9	Ran Off Road - Right	Richmond	12	8	8	4	4	**36**
9	Ran Off Road - Right	Hampton Roads	12	7	9	3	6	**37**
9	Ran Off Road - Right	Fredricksburg	1				1	**2**
9	Ran Off Road - Right	Culpepper	2	1	2	6	6	**17**
9	Ran Off Road - Right	Staunton	3	2	2	2	9	**18**
9	Ran Off Road - Right	Northern Virginia	4	6	9	21	7	**47**
Vehicle Maneuver 9 crashes			46	46	47	53	44	**236**
10	Ran Off Road - Left	Bristol	7	7	5	2	5	**26**
10	Ran Off Road - Left	Salem	3	6	4	2	12	**27**
10	Ran Off Road - Left	Lynchburg	2	2	3	1	2	**10**
10	Ran Off Road - Left	Richmond	4	3	2	3	8	**20**
10	Ran Off Road - Left	Hampton Roads	16	5	6	3	3	**33**
10	Ran Off Road - Left	Fredricksburg	1		1			**2**
10	Ran Off Road - Left	Culpepper	1			1	3	**5**
10	Ran Off Road - Left	Staunton		2	4	2	1	**9**
10	Ran Off Road - Left	Northern Virginia	2	9	16	24	15	**66**
Vehicle Maneuver 10 crashes			36	34	41	38	49	**198**

TABLE 13: 1999-2003 Annual Work Zone Crashes In VDOT Districts By Vehicle Maneuver (CONTINUED)

Code	Vehicle Maneuver Description	District	1999	2000	2001	2002	2003	5 Year Total
11	Parked	Bristol		1		1		**2**
11	Parked	Salem				1		**1**
11	Parked	Lynchburg			1			**1**
11	Parked	Richmond	3					**3**
11	Parked	Hampton Roads			1	1		**2**
11	Parked	Northern Virginia		1		2	1	**4**
Vehicle Maneuver 11 crashes			3	2	2	5	1	**13**
12	Backing	Bristol		2	3	4	1	**10**
12	Backing	Salem	2		2	5	5	**14**
12	Backing	Lynchburg	1	3	2	2		**8**
12	Backing	Richmond	5	2	4	5	3	**19**
12	Backing	Hampton Roads	2	2	4	3	4	**15**
12	Backing	Fredricksburg					1	**1**
12	Backing	Culpepper	1		1	2	1	**5**
12	Backing	Staunton	3	2	3	2	1	**11**
12	Backing	Northern Virginia	4	4	4	13	5	**30**
Vehicle Maneuver 12 crashes			18	15	23	36	21	**113**
13	Passing	Bristol	6	3	2	5	1	**17**
13	Passing	Salem	2	1	1			**4**
13	Passing	Lynchburg			1			**1**
13	Passing	Richmond	5	2	3			**10**
13	Passing	Hampton Roads	5	4		3		**12**
13	Passing	Culpepper		1		2		**3**
13	Passing	Staunton			1		2	**3**
13	Passing	Northern Virginia	1	4	3	4	2	**14**
Vehicle Maneuver 13 crashes			19	15	11	14	5	**64**
14	Changing Lanes	Bristol	16	12	7	9	2	**46**
14	Changing Lanes	Salem	9	8	15	15	10	**57**
14	Changing Lanes	Lynchburg	3	2	2		6	**13**
14	Changing Lanes	Richmond	33	12	20	21	12	**98**
14	Changing Lanes	Hampton Roads	30	15	9	22	21	**97**
14	Changing Lanes	Fredricksburg		2	1	3	3	**9**
14	Changing Lanes	Culpepper	2	4	3	6	2	**17**
14	Changing Lanes	Staunton	1	3	3		3	**10**
14	Changing Lanes	Northern Virginia	24	27	52	73	76	**252**
Vehicle Maneuver 14 crashes			118	85	112	149	135	**599**
15	Other	Bristol	1	1	2			**4**
15	Other	Salem	2	1	1		1	**5**
15	Other	Lynchburg	1		1		1	**3**
15	Other	Richmond	9	4	4	8	4	**29**
15	Other	Hampton Roads	9	3	7	2	4	**25**
15	Other	Fredricksburg			1		1	**2**
15	Other	Culpepper	1			1		**2**
15	Other	Staunton	1	1	2	1		**5**
15	Other	Northern Virginia	4	1	3	8	8	**24**
Vehicle Maneuver 15 crashes			28	11	21	20	19	**99**
16	Not Stated	Bristol	3	4				**7**
16	Not Stated	Salem		1				**1**
16	Not Stated	Lynchburg	1	2		3	2	**8**
16	Not Stated	Richmond	3	4	3	1	5	**16**
16	Not Stated	Hampton Roads	8	2	1	1	1	**13**
16	Not Stated	Fredricksburg	1				1	**2**
16	Not Stated	Culpepper	2					**2**
16	Not Stated	Staunton	1	1	1		9	**12**
16	Not Stated	Northern Virginia	3	5		8		**16**
Vehicle Maneuver 16 crashes			22	19	5	13	18	**77**
Total Number Of Vehicles In 1999-2003 Crashes								**9130**

TABLE 14: 1999-2003 Annual Work ZoneCrashes By Driver Age Groups

		DRIVER AGE										
Code	DRIVER ACTION DESCRIPTION	< 15	15 - 17	18 - 20	21 - 30	31 - 40	41 - 50	51 - 60	61 - 70	> 70	Not Stated	Total
38	Not Stated	1	12	14	51	47	48	25	14	8	42	262
37	Other Violations	3	13	34	87	70	54	36	14	25	9	345
07	Improper Passing of School Bus						1					1
04	Overtaking on Hill			1			1					2
19	Improper Start From Parked Position		1		1							2
28	Driving Without Lights			1				1				2
29	Improper Parking Location					1		1			1	3
36	Blinded By Lights					1	1		1			3
05	Overtaking on Curve				2		1		1			4
06	Overtaking at Intersection				2		1		1			4
30	Avoiding Pedestrian		1	1	1		1					4
13	Fail To Signal or Improper Signal			1	3					1		5
15	Improper Turn - Cut Corner on Left Turn			1	1	1	1	1				5
24	Fail to Stop At Through Highway - No Sign		1	2		1		1				5
35	Car Ran Away - No Driver										5	5
14	Improper Turn - Wide Right Turn			3	2	5	3					13
33	Crowded Off Roadway			2	3	3	4			1		13
32	Avoiding Animal		1	3	6	4	1	1				16
20	Disregarded Officer or Watchman			1	4	4	4	2	3	1		19
25	Drive Through Safety Zone		2	2	9	3	3	3	2	1	1	26
10	Wrong Side of Road - Not Overtaking		1	6	11	7	6	6	1		6	44
22	Disregarded Stop or Yield Sign		4	3	10	10	5	3	3	7	1	46
09	Other Improper Passing		1	2	9	8	11	11	2	2	2	48
16	Improper Turn From Wrong Lane		3	4	10	7	9	6	6	2	2	49
17	Other Improper Turning		2	5	6	14	8	10	4	5	1	55
18	Improper Backing			5	12	16	12	11	6		3	65
21	Disregarded Stop - Go Light		5	17	33	20	12	12	8	16	4	127
31	Avoiding Other Vehicle	2	7	15	46	35	26	19	6	3	1	160
34	Hit And Run	1	6	7	12	9	9	3		3	145	195
03	Exceeded Safe Speed		9	32	55	38	29	25	6	9	2	205
02	Exceeded Speed Limit		10	30	79	41	35	11	5	4		215
08	Cutting In		5	18	38	39	41	26	21	13	33	234
11	Did Not Have Right of Way		28	54	115	100	103	59	55	51	7	572
23	Driver Inattention	2	50	109	288	228	176	111	61	58	13	1096
12	Following Too Close		71	146	304	225	177	114	49	32	6	1124
01	None (Vehicles that got hit by other vehicle)	5	154	281	897	988	814	565	264	169	18	4155

TABLE 15: Driver Gender In 1999-2003 Annual Work Zone Crashes By Driver Age Groups

				DRIVER AGE RANGE									
Code	Gender	Crash Year	Total Drivers	<15	>70	15-17	18-20	21-30	31-40	41-50	51-60	61-70	not stated
1	Male	1999	1107	2	48	44	96	275	254	181	139	68	
1	Male	2000	1046	1	58	45	94	227	243	179	136	63	
1	Male	2001	1102	3	45	58	92	250	232	210	142	70	
1	Male	2002	1164	3	57	32	97	277	271	210	142	75	
1	Male	2003	1015		42	30	83	245	207	206	141	61	
No of male drivers in crashes			5434	9	250	209	462	1274	1207	986	700	337	0
2	Female	1999	740		32	36	68	186	167	144	72	35	
2	Female	2000	624		33	32	72	148	140	105	63	31	
2	Female	2001	696	1	34	49	53	161	149	134	71	44	
2	Female	2002	722		34	34	81	183	144	125	75	46	
2	Female	2003	600		25	27	63	143	118	103	81	40	
No of female drivers in crashes			3382	1	158	178	337	821	718	611	362	196	0
3	Unknown	1999	66		3						1		62
3	Unknown	2000	68										68
3	Unknown	2001	59	2				2					55
3	Unknown	2002	61	3			1						57
3	Unknown	2003	60										60
No of Driver Unknown Crashes			314	5	3	0	1	2	0	0	1	0	302

** 2 drivers in 1999 coded as 0 are grouped with the driver unknown category

TABLE 16: Driver Gender In 1999-2003 Annual Work Zone Crashes By Driver Age Groups In VDOT Districts

			DRIVER AGE RANGE										
Code	Gender	DISTRICT	<15	>70	15-17	18-20	21-30	31-40	41-50	51-60	61-70	not stated	**Total**
1	Male	Bristol		44	19	35	106	103	94	71	36		**508**
1	Male	Salem		47	15	48	129	109	112	82	66		**608**
1	Male	Lynchburg		14	13	17	37	40	35	25	8		**189**
1	Male	Richmond		46	57	89	207	201	167	120	61		**948**
1	Male	Hampton Roads	3	38	50	121	303	276	195	113	66		**1165**
1	Male	Fredericksburg		3	2	8	22	17	10	12	4		**78**
1	Male	Culpeper		8	7	8	31	36	29	36	12		**167**
1	Male	Staunton		6	10	14	50	34	32	32	18		**196**
1	Male	Northern Virginia	6	44	36	122	389	391	312	209	66		**1575**
No of male drivers in crashes			9	250	209	462	1274	1207	986	700	337	0	**5434**
2	Female	Bristol		10	17	21	68	56	54	25	29		**280**
2	Female	Salem		21	27	45	79	67	59	56	33		**387**
2	Female	Lynchburg		10	8	10	34	27	23	15	9		**136**
2	Female	Richmond		38	47	67	163	142	130	67	36		**690**
2	Female	Hampton Roads	1	39	37	99	190	151	127	67	44		**755**
2	Female	Fredericksburg		4	5	5	20	12	6	6	2		**60**
2	Female	Culpeper		10	7	12	24	26	18	16	6		**119**
2	Female	Staunton		10	5	16	15	23	13	15	10		**107**
2	Female	Northern Virginia		16	25	62	228	214	181	95	27		**848**
No of female drivers in crashes			1	158	178	337	821	718	611	362	196	0	**3382**
3	Unknown	Bristol										22	**22**
3	Unknown	Salem		1								20	**21**
3	Unknown	Lynchburg										**2**	**2**
3	Unknown	Richmond		1								44	**46**
3	Unknown	Hampton Roads	5	1		1	2					63	**72**
3	Unknown	Fredericksburg										**6**	**6**
3	Unknown	Culpeper										10	**10**
3	Unknown	Staunton										6	**6**
3	Unknown	Northern Virginia										129	**129**
No of Driver Unknown Crashes			5	3	0	1	2	0	0	0	0	302	**314**
Total Number of Drivers In Work Zone Crashes													**9130**

** 2 crashes from District 4 (Richmond) coded as 0 are grouped with the Driver Unknown crashes in Richmond

TABLE 17: Area In work Zone of 1999-2003 Annual Work Zone Crashes By Collision Type

Code	Collision Type	Crash Year	Advance Warning Area	Transition Area	Buffer Area	Activity Area	Termination Area	Not Stated	Total Crashes
01	Rear End	1999	32	34	3	225		126	420
01	Rear End	2000	35	12	1	192	2	125	367
01	Rear End	2001	33	28		210	4	132	407
01	Rear End	2002	26	28		262		139	455
01	Rear End	2003	24	29	4	172	3	131	363
Rear End Crashes			**150**	**131**	**8**	**1061**	**9**	**653**	**2012**
02	Angle	1999	3	2		78	1	103	187
02	Angle	2000	3			80	1	87	171
02	Angle	2001	4	6		90	2	93	195
02	Angle	2002	2	1		57	2	91	153
02	Angle	2003	3	4		54	4	80	145
Angle Crashes			**15**	**13**	**0**	**359**	**10**	**454**	**851**
03	Head On	1999				5		2	7
03	Head On	2000				5		1	6
03	Head On	2001				4		7	11
03	Head On	2002				3		4	7
03	Head On	2003				3		1	4
Head On Crashes			**0**	**0**	**0**	**20**	**0**	**15**	**35**
04	Sideswipe - Same	1999	3	22	1	70	2	27	125
04	Sideswipe - Same	2000	4	16	2	60		33	115
04	Sideswipe - Same	2001	2	16		55	1	36	110
04	Sideswipe - Same	2002	2	14	1	96		36	149
04	Sideswipe - Same	2003	4	17	2	63	3	35	124
Sideswipe - Same Crashes			**15**	**85**	**6**	**344**	**6**	**167**	**623**
05	Sideswipe - Opposite	1999				5		7	12
05	Sideswipe - Opposite	2000	1			9		4	14
05	Sideswipe - Opposite	2001				5		3	8
05	Sideswipe - Opposite	2002				5		3	8
05	Sideswipe - Opposite	2003		1		2		4	7
Sideswipe - Opposite Crashes			**1**	**1**	**0**	**26**	**0**	**21**	**49**
06	Fixed object in road	1999	1	3	3	29		14	50
06	Fixed object in road	2000	3		3	27		10	43
06	Fixed object in road	2001	2	5		33	1	12	53
06	Fixed object in road	2002	1	1	1	21		7	31
06	Fixed object in road	2003	2	3		28		16	49
Fixed object in road Crashes			**9**	**12**	**7**	**138**	**1**	**59**	**226**
07	Train	1999							
07	Train	2000				1			1
07	Train	2001							
07	Train	2002						1	1
07	Train	2003							
Train Crashes			**0**	**0**	**0**	**1**	**0**	**1**	**2**

TABLE 17: Area In work Zone of 1999-2003 Annual Work Zone Crashes By Collision Type (Continued)

Code	Collision Type	Crash Year	Advance Warning Area	Transition Area	Buffer Area	Activity Area	Termination Area	Not Stated	Total Crashes
08	Non-Collision	1999				16		3	19
08	Non-Collision	2000				9		10	19
08	Non-Collision	2001				9		6	15
08	Non-Collision	2002	3			8		5	16
08	Non-Collision	2003		1		12		7	20
Non-Collision			**3**	**1**	**0**	**54**	**0**	**31**	**89**
09	Fixed object off road	1999	2	2	6	58		36	104
09	Fixed object off road	2000	2	5	7	51		37	102
09	Fixed object off road	2001				57		42	99
09	Fixed object off road	2002	1	2	4	65		34	106
09	Fixed object off road	2003		2		47	1	54	104
Fixed object off road Crashes			**5**	**11**	**17**	**278**	**1**	**203**	**515**
10	Deer	1999				4		8	12
10	Deer	2000	1			5		3	9
10	Deer	2001				1		6	7
10	Deer	2002	1			1		5	7
10	Deer	2003				2		5	7
Deer Crahses			**2**	**0**	**0**	**13**	**0**	**27**	**42**
11	Other Animal	1999				1			1
Other Animal Crashes			**0**	**0**	**0**	**1**	**0**	**0**	**1**
12	Pedestrian	1999				11		4	15
12	Pedestrian	2000	1			7		3	11
12	Pedestrian	2001	3			7		4	14
12	Pedestrian	2002	1	1		7		1	10
12	Pedestrian	2003	2			3		7	12
Pedestrian Crashes			**7**	**1**	**0**	**35**	**0**	**19**	**62**
15	Backed Into	1999			1	11		2	14
15	Backed Into	2000	2			8		3	13
15	Backed Into	2001	3			11		7	21
15	Backed Into	2002				15		7	22
15	Backed Into	2003	2			10		4	16
Backed Into Crashes			**7**	**0**	**1**	**55**	**0**	**23**	**86**
16	Miscellaneous or other	1999				8		3	11
16	Miscellaneous or other	2000				7		3	10
16	Miscellaneous or other	2001				3		2	6
16	Miscellaneous or other	2002				2		1	3
16	Miscellaneous or other	2003				7		3	10
Miscellaneous or other Crashes			**0**	**0**	**0**	**27**	**0**	**12**	**40**
5yr total crashes by location in WZ			**214**	**255**	**39**	**2412**	**27**	**1685**	**4633**

TABLE 18: Severity of 1999-2003 Annual Work Zone Crashes By Area In Work Zone

Code	Area In Work Zone	Crash Year	Fatal Pedestrian	Fatal Vehicular	Injury to Pedestrian	Injury Vehicular	Property Damage Only	**5 yr Total Crashes**
01	Advance warning area	1999				21	20	**41**
01	Advance warning area	2000			1	18	33	**52**
01	Advance warning area	2001	1	2	2	20	22	**47**
01	Advance warning area	2002			1	15	21	**37**
01	Advance warning area	2003			2	9	26	**37**
Advance warning area crashes			**1**	**2**	**6**	**83**	**122**	**214**
02	Transition Area	1999				18	45	**63**
02	Transition Area	2000				9	24	**33**
02	Transition Area	2001				15	40	**55**
02	Transition Area	2002			1	8	38	**47**
02	Transition Area	2003		2		15	40	**57**
Transition Area Crashes			**0**	**2**	**1**	**65**	**187**	**255**
03	Buffer Area	1999				1	13	**14**
03	Buffer Area	2000				5	8	**13**
03	Buffer Area	2002				3	3	**6**
03	Buffer Area	2003				1	5	**6**
Buffer Area Crashes			**0**	**0**	**0**	**10**	**29**	**39**
04	Activity Area	1999	1	4	10	191	315	**521**
04	Activity Area	2000		3	7	155	296	**461**
04	Activity Area	2001		5	7	202	271	**485**
04	Activity Area	2002	1	4	6	199	332	**542**
04	Activity Area	2003		3	3	142	255	**403**
Activity Area Crashes			**2**	**19**	**33**	**889**	**1469**	**2412**
05	Termination Area	1999				2	1	**3**
05	Termination Area	2000				2	1	**3**
05	Termination Area	2001				1	7	**8**
05	Termination Area	2002				1	1	**2**
05	Termination Area	2003				2	9	**11**
Termination Area Crashes			**0**	**0**	**0**	**8**	**19**	**27**
06	Unknown	1999	1	2	3	116	212	**334**
06	Unknown	2000		4	3	112	200	**319**
06	Unknown	2001	1	3	3	135	209	**351**
06	Unknown	2002		2	1	111	220	**334**
06	Unknown	2003	1	6	6	117	218	**348**
Crashes with location in WZ Unknown			**3**	**17**	**16**	**591**	**1059**	**1686**
5yr total crashes by severity			**6**	**40**	**56**	**1646**	**2885**	**4633**

TABLE 19: Severity of 1999-2003 Work Zone Crashes By Area In Work Zone In VDOT Districts

Code	Area In Work Zone	District	Total Crashes	Fatal Pedestrian	Fatal Vehicular	Injury to Pedestrian	Injury Vehicular	Property Damage Only
01	Advance warning area	Bristol	47			1	21	25
01	Advance warning area	Salem	58			1	22	35
01	Advance warning area	Lynchburg	9			1	5	3
01	Advance warning area	Richmond	17	1		1	5	10
01	Advance warning area	Hampton Roads	28				12	16
01	Advance warning area	Fredericksburg	4				2	2
01	Advance warning area	Culpeper	3		1			2
01	Advance warning area	Staunton	13		1		4	8
01	Advance warning area	Northern Virginia	35			2	12	21
Advance warning area crashes			**214**	**1**	**2**	**6**	**83**	**122**
02	Transition Area	Bristol	16			1	5	10
02	Transition Area	Salem	38				7	31
02	Transition Area	Lynchburg	4				1	3
02	Transition Area	Richmond	53				15	38
02	Transition Area	Hampton Roads	46		1		11	34
02	Transition Area	Fredericksburg	9					9
02	Transition Area	Culpeper	17				5	12
02	Transition Area	Staunton	4				2	2
02	Transition Area	Northern Virginia	68		1		19	48
Transition Area Crashes			**255**	**0**	**2**	**1**	**65**	**187**
03	Buffer Area	bristol	10				3	7
03	Buffer Area	salem	2				1	1
03	Buffer Area	richmond	6					6
03	Buffer Area	Hampton roads	6				2	4
03	Buffer Area	Staunton	2					2
03	Buffer Area	Northern Virginia	13				4	9
Buffer Area Crashes			**39**	**0**	**0**	**0**	**10**	**29**
04	Activity Area	bristol	254		2	6	109	137
04	Activity Area	salem	268		1		105	162
04	Activity Area	Lynchburg	77		1	2	28	46
04	Activity Area	richmond	442		4	6	152	280
04	Activity Area	Hampton roads	440		5	6	172	257
04	Activity Area	Fredericksburg	33			2	14	17
04	Activity Area	Culpepper	80	1	1	1	27	50
04	Activity Area	Staunton	83			1	24	58
04	Activity Area	Northern Virginia	734	1	5	9	258	461
04`	Activity Area	Staunton	1					1
Activity Area Crashes			**2412**	**2**	**17**	**27**	**780**	**1332**
05	Termination Area	bristol	1					1
05	Termination Area	salem	4				2	2
05	Termination Area	Lynchburg	3				1	2
05	Termination Area	richmond	8				3	5
05	Termination Area	Hampton roads	5				1	4
05	Termination Area	Staunton	1					1
05	Termination Area	Northern Virginia	5				1	4
Termination Area Crashes			**27**	**0**	**0**	**0**	**8**	**19**
06	Unknown	bristol	90	1		1	39	49
06	Unknown	salem	147		2		47	98
06	Unknown	Lynchburg	81	1	1		29	50
06	Unknown	richmond	330	1	5	6	97	221
06	Unknown	Hampton roads	486		4	2	189	291
06	Unknown	Fredericksburg	29		1		8	20
06	Unknown	Culpepper	53		1		18	34
06	Unknown	Staunton	66		1	1	20	44
06	Unknown	Northern Virginia	404		2	6	144	252
Crashes with Location in WZ Unknown			**1686**	**3**	**17**	**16**	**591**	**1059**
5yr totals crashes			**4633**	**6**	**38**	**50**	**1537**	**2748**